



**ASIIN Seal**

## **Accreditation Report**

**Master's Degree Programmes**

***Veterinary Agribusiness***

***Veterinary Disease and Veterinary Public Health***

Provided by

**Universitas Airlangga, Indonesia**

Version: 26 September 2025

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## A About the Accreditation Process

| Name of the degree programme (in original language)   | (Official) English translation of the name                         | Labels applied for <sup>1</sup> | Previous accreditation (issuing agency, validity) | Involved Technical Committees (TC) <sup>2</sup> |
|---|--|---------------------------------|---|---|
| Program Magister Agribisnis Veteriner   | Master's Programme Veterinary Agribusiness                         | ASIIN                           | -   | 14, 08  |
| Program Magister Ilmu Penyakit dan Kesehatan Masyarakat Veteriner   | Master's Programme Veterinary Disease and Veterinary Public Health | ASIIN                           | -   | 14, 08  |
| <b>Date of the contract:</b> 19.10.2023<br><b>Submission of the final version of the self-assessment report:</b> 01.04.2024<br><b>Date of the audit:</b> 06.-07.06.2024   |  |                                 |   |   |
| <b>Expert panel:</b><br>Prof. Dr. Helen Louton, University of Rostock<br>Prof. Dr. Bernhard Hiebl, University of Veterinary Medicine Hannover<br>Robi Agustiar, Indonesia Cattle and Buffalo Farmers Association, Yayasan CBC<br>Nadya Wacimin, Universitas Gadjah Mada student |  |                                 |   |   |
| <b>Representative of the ASIIN headquarter:</b><br>Johann Jakob Winter, M.Sc.   |  |                                 |   |   |
| <b>Responsible decision-making committee:</b><br>Accreditation Commission   |  |                                 |   |   |
| <b>Criteria used:</b><br>European Standards and Guidelines as of May 05, 2015   |  |                                 |   |   |

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

<sup>2</sup> TC: Technical Committee for the following subject areas: TC 14 – Medicine

## A About the Accreditation Process

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|--|--|
| ASIIN General Criteria, as of March 28, 2023 |  |
|--|--|

## B Characteristics of the Degree Programmes

| a) Name  | Final degree (original)                   | b) Areas of Specialization   | c) Corresponding level of the EQF <sup>3</sup> | d) Mode of Study | e) Double/Joint Degree | f) Duration | g) Credit points/unit     | h) Intake rhythm & First time of offer     |
|--|---|--|--|------------------|------------------------|-------------|---------------------------|--|
| Master's Programme in Veterinary Agribusiness                          | Magister Veteriner / Master of Veterinary | - Disease treatment and hygiene<br>- Animal health from the agribusiness point of view | 7  | Full time        | no                     | 4 semesters | 40 SKS credits / 120 ECTS | Twice per year (August and February), 2008 |
| Master's Programme in Veterinary Diseases and Veterinary Public Health | Magister Sains/ Master of Science         | - Zoonoses diseases<br>- One Health  | 7  | Full time        | no                     | 4 semesters | 40 SKS credits / 120 ECTS | Twice per year (August and February), 2010 |

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

Universitas Airlangga (UNAIR) is a public university in the city of Surabaya on the Java island of Indonesia. It was founded as an independent university in 1954 after being established already in 1948 as the medical branch of the University of Indonesia. It is regarded as the second-oldest university in Indonesia and enjoys a high reputation of academic excellence among students, alumni, lecturers, and the industry. Nowadays, UNAIR hosts 16 faculties with more than 30,000 enrolled students. It is ranked as the number 308 in the QS World University Ranking 2024, as well as number 4 in Indonesia and number 67 in the Asian University Ranking. Both Master's programs under review belong to the Faculty of Veterinary Medicine (FKH) and are subject to international programme accreditation by ASIIN for the first time.

For the Master's Programme in Veterinary Agribusiness, Universitas Airlangga (UNAIR) has presented the following profile on its webpage:

**Vision:**

To become a leading study program at national and international levels, a pioneer in the development of veterinary agribusiness education and research in the field of veterinary agribusiness and animal husbandry based on religious morals, ethics, environmental sustainability and animal welfare while remaining oriented towards public welfare.

**Mission:**

1. Organizing master's level academic education in the field of veterinary agribusiness and animal husbandry based on modern learning technology, which can produce graduates with professional abilities and a strong desire to develop their knowledge, with an entrepreneurial spirit, who uphold religious morals and ethics.
2. Carrying out innovative and high quality basic, applied and policy research in the field of veterinary agribusiness and animal husbandry to support the development of science, education and community service based on religious morals, ethics, environmental sustainability and animal welfare.
3. Providing expertise in the field of veterinary agribusiness and animal husbandry to the community.
4. The realization of mutually beneficial partnership relationships with related institutions in order to realize the independence of quality-oriented study programs and the ability to compete at national and international levels.

For the Master's Programme in Veterinary Diseases and Veterinary Public Health, Universitas Airlangga (UNAIR) has presented the following profile on its webpage:

**Vision:**

To be independent, innovative, leading at national and international levels and to play a role in the development of science and technology in the field of animal disease and veterinary public health based on professional ethics and religious morals.

**Mission:**

1. Organizing education that is able to encourage students to have high academic capacity in the field of animal disease and veterinary public health science.
2. Increase and develop research efforts to prevent disease and improve animal health as well as improve community welfare.
3. Carry out community service in the field of animal diseases and veterinary public health.

## C Expert Report for the ASIIN Seal

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

|   |
|---|
| <b>Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)</b> |
|---|

**Evidence:**

- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Homepage UNAIR: <https://unair.ac.id/en/>
- Homepage Faculty of Veterinary Medicine: <https://fkh.unair.ac.id/new-fkh/>
- Examples of Master theses
- Discussions during the audit

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

The experts base their assessment of the learning outcomes on the information provided on the websites and in the Self-Assessment Report of both the Master's Programme in Veterinary Agribusiness (MA-VA) and the Master's Programme in Veterinary Diseases and Veterinary Public Health (MA-VDPH).

For both programmes, Universitas Airlangga (UNAIR) has described and published "Goals" and "Learning Outcomes" (LO). The goals refer more generally to the graduate profiles of the faculty which are prepared according to the needs of internal and external stakeholders including attitudes, general skills, knowledge, and specific skills. On the other hand, LOs specify the intended development and improvement of the students' specific work skills and competencies which are developed based on the Indonesian National Qualifications Framework (KKNI) level 8 (corresponding to EQF level 7).

According to the Self-Assessment Report, graduates of the MA-VA programme should be nationally and internationally competitive experts in veterinary agribusiness and be able to



realize high-quality, innovative research processes in the field. Their knowledge and professional mind set should be research and data-based while always regarding social norms, religious norms and community service.

The graduate profile includes five categories of the field of study in which the graduates are expected to have gained expert knowledge and proficiency: Planner, innovator, manager, entrepreneur, and researcher. The corresponding Learning Outcomes are divided into knowledge-based objectives and specific skills and specified in the following. Additionally, an Objectives Matrix associates the graduate profile with the Learning Outcomes. The Learning Outcomes are displayed in the appendix.

During the on-site interviews, the experts learn that the programme is highly business-oriented while the veterinary component serves only as conceptual basis. The designated job opportunities for graduates of this programme are leading positions in animal farms and hospitals. Furthermore, many active students are already entrepreneurs themselves and stated to have chosen the programme to enhance their managerial and business-related skills in the field of veterinary agribusiness.

Graduates of the MA-VDPH programme should be innovative, reputable, and innovative experts for the design disease control as well as therapy and prevention of animal disease, to protect and improve animal and public health. The second focus is on the ability to develop internationally-regarded quality research in the field of animal diseases and veterinary public health based on professional ethics and religious morals.

The graduate profile specifies the qualification in the roles as planner, decision maker, manager, consultant, and researcher. Accordingly, the Self-Assessment Report specifies the Learning Outcomes in terms of knowledge and specific skills, as documented in the appendix.

An Objectives Matrix relates the LOs with the graduate profile. The most commonly reflected job profile for graduates are positions in public regulatory and monitoring authorities in the field of animal trade and transportation, such as the national Indonesian Quarantine Agency. Moreover, the pursuit of an academic career directed at lecturing positions in universities appeared the second major professional application of this programme's graduates.

Based on the on-site interviews with all stakeholders, including the university, alumni, and industrial partners, the experts gain the impression that the Learning Outcomes of both programmes are perfectly aligned with the current demands of the Indonesian labour market. As both programmes are Master's programmes that built on the students' previous education and experience as veterinary or agribusiness practitioners, they aim at extending

their knowledge and skills to equip students for higher managing, leading, regulatory or administrative positions in the field. Thus, the programmes broaden the job opportunities of students and it appears that graduates have good chances to find employment after accomplishing their studies.

Nevertheless, the experts point out that the Learning Outcomes mainly serve the current national Indonesian labour market while the international perspective comes short in this regard. They suggest that a more international focus of the programmes' objectives and contents would benefit both the university and faculty in terms of international reputation and research collaborations, as well as the Indonesian labour market, since the national industry is in need of increasing its productivity, updating its practices e.g. regarding the topic of animal welfare, and keeping up with international business trends to not lose its market. Graduates of both study programmes would be the perfect professionals to address these issues and successfully manage the change, if educated accordingly at the university.

In summary, the experts are convinced that the intended qualification profiles of both programmes under review allow graduates to take up an occupation which corresponds to their qualification. The degree programmes are designed in such a way that they meet the goals set for them, although a more international perspective would be of great benefit. The objectives and intended learning outcomes of both degree programmes under review are reasonable and well founded, and adequately reflect the intended level of academic qualification (EQF 7).

|   |
|---|
| <b>Criterion 1.2 Name of the degree programme</b> |
|---|

**Evidence:**

- Self-Assessment Report
- Module Handbooks of both programmes
- Discussions during the audit

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

According to a regulation of the Indonesian Ministry of Education, Culture, Research, and Technology, the name of a study programme must reflect its Learning Outcomes. While the MA-VA programme is awarded with a Master of Veterinary (M.Vet), UNAIR awards the degree of Master of Science (M.Sc) for the MA-VDPH programme.

In terms of the degree titles, the experts wonder why the awarded degrees of both programmes differ. To them, it appears especially incomprehensible why the MA-VA programme is awarded with an M.Vet degree, as the programme focuses more on the agri-business component. Therefore, the experts recommend to change the degree title into M.Sc like for the MA-VDPH programme.

The experts learn that the name of the MA-VDPH programme was recently changed from “Veterinary Medicine and Public Health”, which can still be found in some documents and websites. This change was made in response to market needs that the programme should strengthen its focus on the public health component. The experts see this reflected in the Learning Outcomes but not in the curriculum (see section 1.3), which needs to increase the emphasis on modules on public health. Further, they recommend to specify the name of the programme since it does not cover all, but only infectious diseases which are relevant for the public health component of the programme.

In general, however, the experts confirm that the English translation and the original Indonesian names of both degree programmes correspond with the intended aims and Learning Outcomes.

|                                 |
|---------------------------------|
| <b>Criterion 1.3 Curriculum</b> |
|---------------------------------|

**Evidence:**

- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Homepage UNAIR: <https://unair.ac.id/en/>
- Homepage Faculty of Veterinary Medicine: <https://fkh.unair.ac.id/new-fkh/>
- Discussions during the audit

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

*Programme structure and curriculum review*

Both programmes are offered by the Faculty of Veterinary Medicine (FKH) of Universitas Airlangga (UNAIR). They are designed as full time Master’s programmes with a regular duration of four semesters, during which a total of 40 SKS credits (corresponding to 120 ECTS points) have to be achieved. Students can enter the programme in each semester; the fall term begins in September and the spring term in February. Each semester is equivalent to

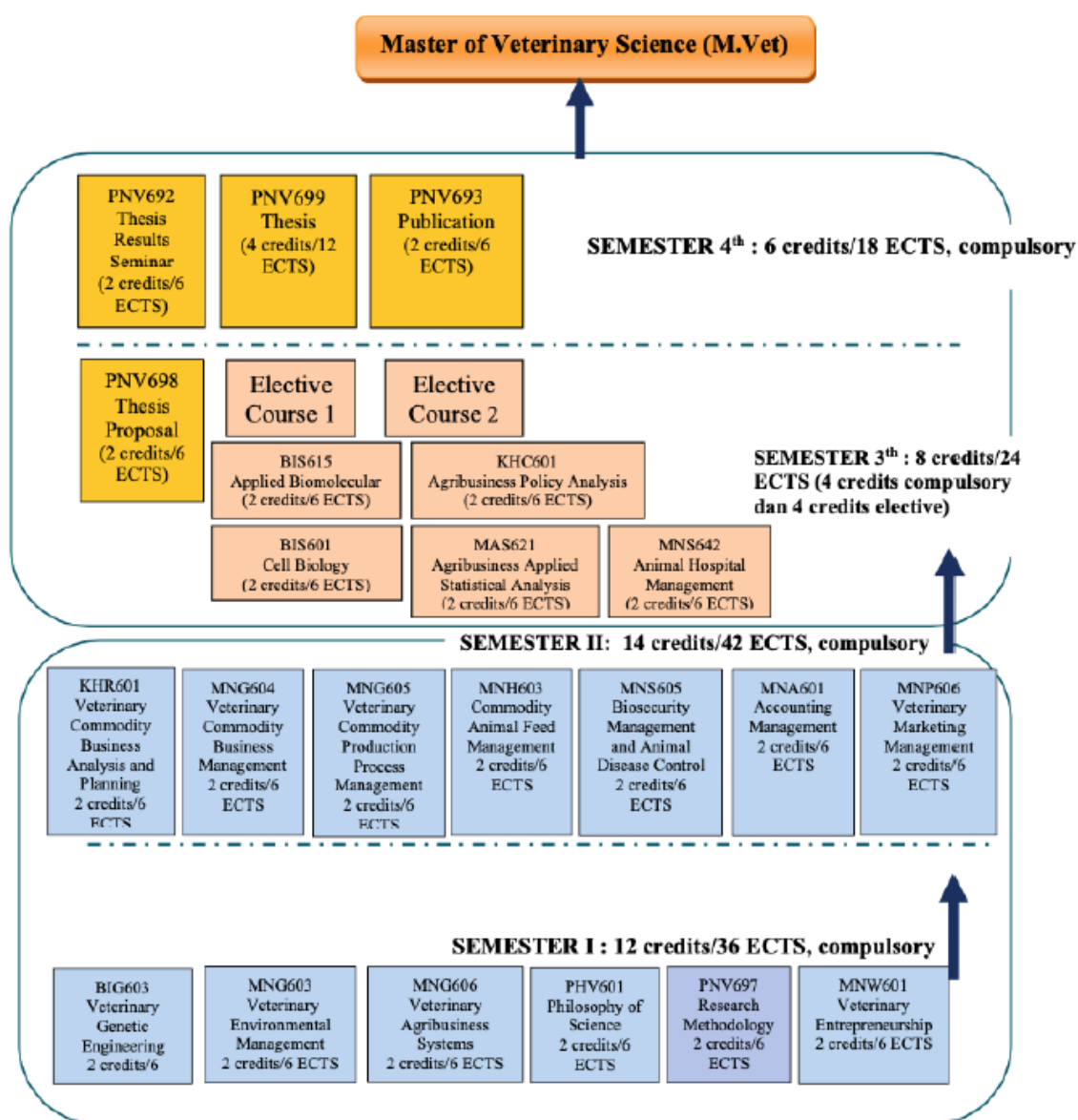
16 weeks of learning activities. Besides these learning activities, there is one week for mid-term exams and one week for final exams.

A systematic review of the curriculum is conducted at least once every five years, involving universities, lecturers, staff, students, alumni, and external stakeholders, which is confirmed to the experts during the on-site interviews. Meanwhile, the workload induced by the academic curriculum is evaluated every year to facilitate the implementation and re-design of modules within the review processes. Also, students and industrial partners affirm close relationships with the academic staff which facilitates informal channels of feedback for the improvement of the programmes.

### *Content*

The MA-VA programme focuses on the management of livestock commodities from upstream to downstream, a unique programme constellation in the Indonesian higher education offer as highlighted by the programme coordinators. The curriculum provides individual modules based on the LOs. It provides 13 compulsory core modules which account for 26 of the 40 credits. The core modules cover different aspects of the field such as research (e.g., “Philosophy of Science”, “Research Methodology”), modules directly regarding the veterinary profession (e.g., “Veterinary Genetic Engineering”, “Biosecurity Management and Animal Disease Control”), as well as the economic component (e.g., “Veterinary Commodity Business Management” and “Veterinary Agribusiness Systems”). Additionally, students have to choose two elective courses from a list of five options by which the students can specialize further in the directions of biology, veterinary sciences or agribusiness according to their interest. Electives can be taken both in the odd and even semesters. In the second or third semester, students have to prepare and submit a proposal for their thesis which is to be written, presented, and published in the third or fourth semester. The entire process of the thesis preparation is divided into four courses. The total amount of credits associated with the different parts of the final thesis is 10 SKS, one fourth of the entire programme’s designated workload.

The following figure illustrates the structure and content of the curriculum:



The experts are satisfied with the programme's structure but point out that a significant number of important topics are missing in the curriculum. Some of the topics like animal welfare, sustainability, international animal trade and welfare law, waste management, and climate change are addressed as parts of courses; however, given their importance in the current (international) developments of the field, they should be given more emphasis by designing independent modules. This relates to the necessary update of the concepts of animal welfare and sustainability which the experts see in the Indonesian definition of these topics. Internationally, these concepts have grown and changed rapidly in definition, range, and importance over the past decade, and new standards have evolved. Therefore, to cover the extensive contents of these topic and familiarize the students with the international standards, the way these topics are included in the programme must necessarily

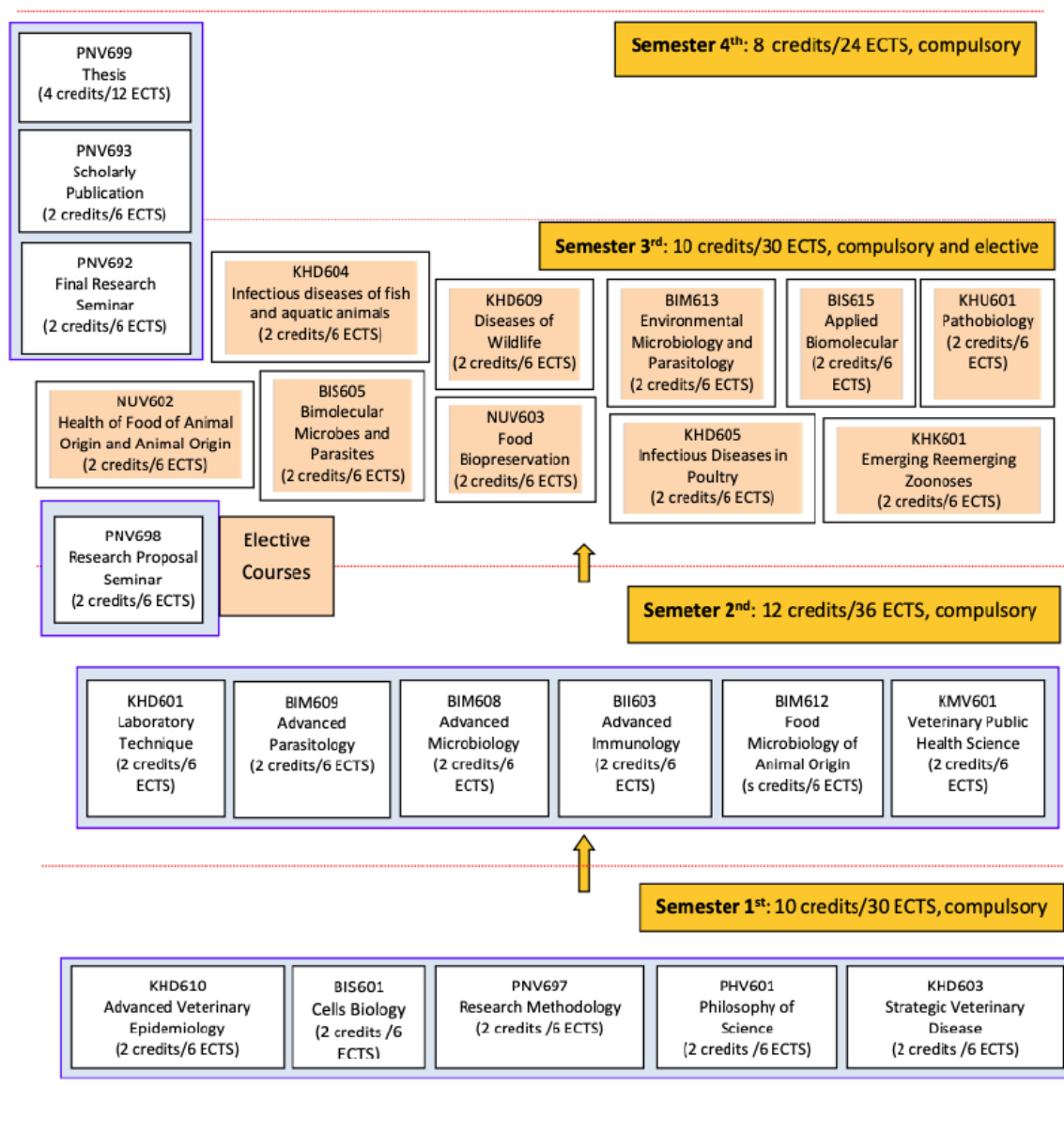
be upgraded. In this regard, the experts again stress that the raise of these standards represent a strong business case because the international customers require these standards and companies who do not comply with these measures will be driven out of the market shortly.

Given the strong business focus of the programme, the experts are also missing topics like policy analysis, digitalization, and data management as parts of the curriculum. These topics should be included into the curriculum to equip students with the necessary skills to increase their businesses' productivity, foster innovation, and keep up with fast-changing, international markets. This need is also represented by the students' wish to gain more practical insights into the business context. So far, the programme offers field trips only to farms and hospitals. However, field trips should rather go to decision-making entities on a higher level, like ministries, trade chambers, livestock companies, and international associations, to give the students a broader, more long-term and innovative perspective on the business. This would be additionally enhanced by implementing an internship into the curriculum, which would also be supported by the industrial partners.

Lastly, the experts also recommend to include a module on communication strategies and intercultural competencies to strengthen the soft skills which were mentioned as a weak point by industrial partners. They see great potential to successfully implement these modules by increasing the cooperation among UNAIR's different faculties (e.g., with the Faculty of Business and Economics, the Faculty of Communication), UNAIR's start-up and incubation business development board, as well as with other national universities. As many recent challenges are of an interdisciplinary nature, the best way to address them is to use interdisciplinary courses and teaching methods.

The MA-VDPH programme requires the successful completion of 19 modules relating to the LOs. The curriculum includes 11 compulsory core modules (22 credits) and four elective modules which can be chosen from a list of ten options according to the individual interest and specialization. The core modules' backgrounds include biology (e.g., "Cell Biology", "Food Microbiology of Animal Origin"), health and disease management (e.g., "Strategic Veterinary Disease", "Advanced Immunology"), and research (e.g., "Philosophy of Science", "Research Methodology"), while the elective courses provide further depth to different kinds of diseases and the concerned animal groups such as "Environmental Microbiology and Parasitology", "Infectious Diseases in Fish and Aquatic Animals", and "Diseases of Wildlife". The remainder of the credits consists of the research proposal seminar, the final research seminar, a scholarly publication, and the final thesis.

The programme's curriculum structure is visualized in the following figure:



While the experts generally praise the attractiveness of the number of elective courses, they wonder how these courses are taught if only 15 students take the programme per cohort. The lecturers explain that every course is taught even if only one student chooses it. In practice, however, this case rarely happens such that there is no general problem regarding the course offer.

Secondly, also for this programme the experts see the need to include new modules and highlight certain topics and competencies. Especially the field of public health as the strategic and prevention-oriented connection between veterinary and human health issues must be addressed differently: Core modules of the discipline which must be necessarily

included in the curriculum concern the topics of animal welfare (on the previously mentioned international standard) and one health, as well as food hygiene, food safety and international food law.

Furthermore, the experts gain the impression that the concept of public health is addressed, but only in parts. For instance, the learning activities in the context of infectious diseases have a strong focus on disease pathology, diagnosis and treatment. Although this is important for the understanding of the matter, also comprehensive, collective aspects of veterinary medicine, as induced by the concept of public health, would be beneficial. This also relates to the topics of the research projects tackled by the students in the course of their Master's theses. The experts find most of these topics very translational and directed towards local industry needs. At the universities level basic research projects form the basis for the subsequent translational projects. For this reason, research activities should focus much more on the basic concepts and foundations. Furthermore, important topics of Veterinary Public Health, as mentioned above, are not addressed to a sufficient level which is necessary for understanding these topics, but only in parts of lectures.

According to the Self-Assessment Report, the lecturing languages of the two programmes are both Bahasa Indonesia and English. However, the concept of bilingual teaching was not clear to the experts. The lecturers explain that the teaching language of the courses is adapted depending on the students who take the course: If international students are present, the lecturing language is English, otherwise Bahasa Indonesia is used. The same appears to apply for the teaching materials. The programme coordinators refer to the requirement of the Bahasa Indonesia language for cultural reasons. Only international guest lectures are usually held in English as standard. Partly contrasting the lecturers, the students affirm that English is used in most of the courses.

Given that a good English proficiency is required both, as criterion for the admission as well as the graduation of the programmes, the experts wonder why English is not used for the teaching in all courses. They extensively discuss this issue and weight the two perceived counter-arguments, that the English instruction language could frighten local students who are not too familiar with the language, while English as the clearly defined single instruction language would strongly promote the programmes' international perspectives, both in terms of the adaption of international contents as well as international student mobility. In conclusion, the experts suggest that the programme coordinators should consider the possibility of offering both programmes fully in English, as they find that the benefits of internationalization would exceed the risk of losing national students. In any case, the regulation which courses and teaching components are offered in which language must necessarily be formulated in a structured and transparent way and made available to all (potential) students in the module handbooks and on the programmes' websites.



### *International mobility*

UNAIR currently hosts roughly 450 international students while about 500 students are using opportunities of outbound mobility. Student mobility is regulated in PP-UNAIR-AGE-03 for inbound mobility and PP-UNAIR-AGE-04 for outbound mobility. The most important mobility programme is the Airlangga Global Engagement programme, which not only offers mobility options for students but also promotes international research initiatives by local professors and publication collaborations. Most of the mobility is directed towards other South-East-Asian countries such as Malaysia and Thailand, but also Japan.

In terms of outbound mobility, the programme coordinators explain that most of the university's international programmes, such as the Kampus Merdeka initiative, are directed only towards undergraduate students. Therefore, the Master's programmes do not contain a designated mobility window. Nevertheless, some of the Master's students have made use of mobility opportunities, mostly on a short-term basis for the participation in international conferences and seminars. The Faculty of Veterinary Medicine has established partnerships with foreign institutions like Kohn Kaen University (Thailand), Tunghai University (Taiwan), Yamaguchi University (Japan), NPUST (National Pingtung University of Science and Technology) Taiwan, National Chung Hsing University (Taiwan), National Taiwan University (NTU) Taiwan and Tarlac Agriculture University (Philippines).

The students report that the university is very supportive, provides funding and travel grants, and also flexibly handles the recognition of achievements obtained during mobility periods. The nevertheless generally low mobility during the studies can be explained with the low willingness of the students since many of them are bound to their hometowns by family and business obligations. However, it is notable that some of the students had worked abroad before starting the Master's degree or were planning to go abroad for a PhD degree which the experts remark as positive. In general, the experts laud the university's support for international mobility and recommend continuing the efforts of encouraging students to use these important opportunities.

However, at present, not even one international student is enrolled in both programmes under review, which is critically regarded by the experts, given the reputation and strive towards internationalization of UNAIR. The experts are of the opinion that this lack of interest by international students originates in the strong national focus of the curriculum and the unclear language regulations, which make the programmes unattractive for international students. They stress that the openness for incoming students is an important aspect for the programmes' international reputation and the local students would highly benefit in developing intercultural competences and adapting international perspectives.

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| <b>Criterion 1.4 Admission requirements</b> |
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**Evidence:**

- Self-Assessment Report
- Academic Regulation for both programmes
- UNAIR Admission schedule and procedure webpage: <https://iup.unair.ac.id/prospective-students/admission/>
- UNAIR admission webpage: <https://ppmb.unair.ac.id/en/page1/syarat-khusus-magister?tabmenu=front-tab-menu-pendaftaran-magister&menu=Admission&label=Master>
- Homepage UNAIR: <https://unair.ac.id/en/>
- Homepage Faculty of Veterinary Medicine: <https://fkh.unair.ac.id/new-fkh/>
- Discussions during the audit

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

According to the Self-Assessment Report, students can be admitted to the programmes both in the fall and the spring term. The admission procedures and policies for new students, schedule, registration, and selection tests follow the university-wide standards and are announced on UNAIR's webpage, accessible for all stakeholders.

The registration process itself is organized via an autonomous webpage which is used for all the programmes of UNAIR. It includes an online registration on the university's platform where all the required documents have to be submitted.

There are two ways to be selected for the Master's programmes:

1. The regular process involves a written "Academic Potential Test" and a test of the English language proficiency (TOEFL score of at least 450). As a second step, applicants are interviewed by a committee of programme coordinators and lecturers via Zoom regarding their academic background, career ambition, and study motivation.
2. In the portfolio admission system, the applicants are evaluated based on an academic portfolio (including recommendation letters, certificates, publications, etc.) instead of the written tests. Also in this procedure, an online interview is the final stage of the application.

For both programs under review, the special admission requirements going beyond the standard application documents include a research pre-proposal plan (including among others, title, introduction, literature review, and methodology) and a minimum GPA of 2.75 out of 4.00 in their undergraduate programmes.

For the MA-VA programme, the admissible Bachelor's degrees include veterinary medicine, agriculture, biology, fisheries or aquaculture, and veterinarian. The aggregate number of applicants over since 2019 amounts to 64, out of which 58 were accepted. The peak year was 2020 with 20 applications, after which the numbers stabilized around 15 annual applicants. The programme can be started both in the fall and the spring term and has a capacity of 10 students per cohort. However, the current average intake is only six students per cohort.

For the MA-VDPH programme, the admissible Bachelor's degrees are veterinary medicine, veterinarian studies, biology, animal husbandry, and fisheries. In this program, the aggregate number of applicants over since 2019 amounts to 82, out of which 78 were accepted. Application numbers have been relatively stable between 15 and 20 applicants per year and grown slightly since 2020. Also, this programme is based on small group sizes, with the average intake of 15 students out of a capacity of 20. Notable is, though, that only 10 students on average graduate the programme.

Given the good reputation of UNAIR and the veterinary faculty, the experts wonder about the low numbers of applicants for both programmes. The university explains that the provided statistics contain only the numbers of applications that have passed the formal and performance-based requirements and were admitted to the admission interviews. As the number of initial applications constitutes a key figure, the experts ask the faculty to include all initial applications in the statistics and provide the data accordingly to assess indicators like acceptance rates.

Nevertheless, also the numbers of actual students are comparatively low, as the experts note. The programme coordinators affirm that they are not satisfied and would like to increase the number of students in the programmes. Therefore, they want to increase the popularity of the Master's programmes among students, since most of them finish their studies after completion of the professional stage of a Bachelor's programme which qualifies them for their work as practitioners. Master's programmes appear relatively unattractive to fresh graduates and many of the students only decide to pursue a Master's degree after gaining experience in the industry. This was reflected by the students present at the student meeting, all of whom were already actively involved in the industry or regulatory authorities.

The experts also raise the question whether tuition fees could be a factor to hinder students from enrolling into the programmes. Master's students at the Faculty of Veterinary Medicine have to pay tuition fees of IDR 12,500,000 (EUR 710) per semester, added by an initial fee of IDR 10,000,000 (EUR 584) to be paid at the moment of registration. The students

comment that the fees are adequate for the programmes and should be affordable as investment into the education. Also, different Indonesian Ministries offer scholarships which have been awarded to one to two students within the past three years.

In terms of gender distribution, the majority of current students, and even 70% percent of the graduates in the past three years, are female. This reflects the overall national trend in higher education. Therefore, the experts see no problems in terms of gender discrimination. However, the admission regulations contain a rule which excludes disabled students, especially students with colour blindness, from the programme. Colour blindness is a common issue in Indonesia, but, as the experts argue, does not hinder the students neither from successfully executing the tasks of the study duties, nor from the future professional duties of the field. The same applies for other disabilities. Therefore, as also mandated by the applicable ASIIN criteria, the experts require lifting all the regulations that excludes or hinders disabled students from the programmes.

In summary, the auditors find the terms of admission to be binding and transparent. They confirm that, besides the discriminatory regulation against disabled students which needs to be abolished, the admission requirements are reasonable prerequisites and support the students in achieving the intended Learning Outcomes.

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| <b>Criterion 1.5 Workload and credits</b> |
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**Evidence:**

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

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

Based on the National Standards for Higher Education of Indonesia (SNPT), both programmes under review use a credit point system called SKS. Both programs are full time master's degrees with a total about of 40 SKS credits (120 ECTS credits) to be completed over the duration of four semesters (with each 16 weeks of structured learning activities).

For regular classes, 1 SKS of academic load for the programmes is equivalent to 3 academic hours per week, which equals to 170 minutes. This includes:

- 50 minutes of scheduled contact with the teaching staff in learning activities,

- 60 minutes of structured activities related to lectures, such as doing the assignments, writing papers, or studying literature,
- 60 minutes of independent activities outside the classroom to obtain a better understanding of the subject matters and to prepare academic assignments such as reading references.

For lab work, final project, fieldwork, and other similar activities, 1 SKS is equivalent to 3 to 5 hours a week of student's activities. The details and the students' total workload are described in the respective module description. According to the SAR and the curriculum outline, the standard conversion rate from SKS to ECTS points is 1:3 as issued by a Rector's decree.

The experts find that the SKS credit system is an appropriate instrument for the credit assessment of the curriculum. However, they wonder about the different number of hours taken into account for the calculation of credits. In a workload-based system, the number of hours per credit should be fix throughout all academic phases, course formats, and learning methods. Nevertheless, they deem the application of the conversion of SKS credits towards the European system suitable and confirm that the credits awarded to each module adequately reflect the workload required to obtain the respective knowledge and skills. Also, the large effort required for the Master's thesis is appropriately regarded.

Students confirm that they can give feedback about their workloads in the course questionnaires and that the overall workload is high but manageable. Given the fact that many of the students work besides their studies, even as managers of their own companies, they enquire about options for part-time studies. However, the students see no necessity and demand for such adaptations, as they are able to flexibly organize their business duties around the study programmes' schedules. They also stress their great dedication to the programmes which is reflected in good GPAs and a high share of students that graduate within the designated period of two years. Nevertheless, the experts wonder how students can combine the full-time study programmes with full-time jobs.

In summary, the experts consider the workload high, but justified. The workload is periodically evaluated through course surveys and students have the opportunity to give feedback. The applied credit system reflects the workload and the transfer to ECTS credits is reasonable. All compulsory components are awarded with a reasonable number of credits.

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| <b>Criterion 1.6 Didactic and Teaching Methodology</b> |
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**Evidence:**

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

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

According to the Self-Assessment Report, the learning methodology applied in both programmes is a combination of teacher-centred learning (TCL) such as classroom teaching/tutorials, demonstrations, and practical sessions, and student-centred learning (SCL) such as group discussions, case studies, cooperative and project-based learning, field studies, and laboratory work. With individual or group assignments, such as discussions, presentations, or written tasks, students are expected to improve their academic as well as their soft skills. Each course can use one or a combination of several teaching and learning methods. Additionally, a strong focus is on the individual development of scientific practice skills, including literature research, writing proposals and research reports as well as giving presentations. Practical activities should enable students to be acquainted with academic research methods.

The most common method of learning in the MSC-VA programme are lectures, small group discussions, case studies, and problem-based learning. In the MSC-VDPH programme, mostly lectures, group discussions, presentations/seminars, course assignments and problem-based learning are used as teaching methods.

During the on-site visit however, the experts gain diverting insights into the teaching methodology applied in both programmes under review. Although students actively engage in discussions during the classes, the structured teaching methodology appears to follow the teacher-centred approach in most of the cases, while more interactive, modern teaching methods such as reversed classroom activities, different concepts of interaction (Mentimeter) and discussion (eg. Fishbowl discussion), or also business competitions fall short. Although UNAIR provides the infrastructure also for more modern learning approaches like e-learning tasks, quizzes and online assignments, the cyber campus information system appears to be mainly used as a one-way communication and document-sharing channel from lecturers to students.

Specifically in the MA-VA programme, the lecturers state that the courses contain no practical learning components other than one or two field trips per semester. Given the strong

business-orientation of the programme, however, the programme should put more emphasis on the development of practical skills. As a first measure, the number and destinations of field trips should be adapted (see also section 1.3). Also, practical components could include case study projects as well as innovation and business competitions among students. Finally, the experts strongly recommend to include an internship into the curriculum.

On the other hand, for the MA-VDPH programme, the lecturers report a distribution of 60% theoretical to 40% practical learning activities, which is deemed appropriate by the experts. The practical parts include classical lab activities such as chemical analysis (e.g. protein content measurement), sequencing and PCR testing, photometric analysis, histological and microbiological tests). Unfortunately, the equipment in the teaching labs is in many cases outdated and due to missing maintenance service, the functional integrity of the devices is not guaranteed (see also section 3.3). This situation not only has an impact on academic quality and work safety, but also limits the ability of the two Master's programs to teach practical skills at the technical level required by employers in industry and an international level.

In addition to the on-site teaching during the sessions, the learning progress of the students at UNAIR relies also on the extensive use of support materials such as scientific magazines, journals, and handbooks (available as print media and/ or online resource). As induced by the curricula's strong focus on the Master's theses, the independent development of research projects is a crucial part of the learning methodology, which is already prepared by the work with scientific literature in other courses. This is additionally supported by the apparently manifold options to participate in research conferences. The experts praise this strong research focus but, judging based on the presented examples of research project reports and Master's theses, urge the university to use more international, peer-reviewed literature. Currently, the scientific literature body comprises mainly of articles published in university journals. However, in order to gain an international perspective, develop ideas about new research methods and fields, and adapt critical thinking, it is essential to adhere to the international literature.

In conclusion, the experts highly recommend broadening the variety of applied teaching methods and to offer respective didactical continuous-learning opportunities to the lecturers (see section 3.2), which also refers to the international standard of teaching methodology and contents.

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

##### Criterion 1.2:

Concerning the degree title of the MA-VA programme, UNAIR argues that the title M.vet. is essential to emphasize the veterinary focus of the programme. However, in the international context, the word “veterinary” is strongly associated with animal diseases, injuries and the treatment of livestock and pets. The curriculum of the degree programme consists of 22 modules. Only two of these (Biosecurity Management and Animal Disease Control, Thesis (if it relates to a genuine veterinary topic)) deal specifically with animal diseases, injuries and therapeutical approaches. All other modules cover topics that are important in the field of agribusiness. Therefore, the experts remain persistent in their recommendation to change the degree title.

Likewise, for the MA-VDPH programme, UNAIR confirms that the focus of the programme in relation to animal diseases is on infectious diseases. Therefore, the experts recommend to specify the name, as the broadly defined programme name can lead to misunderstandings in the international area.

#### Criterion 1.3:

UNAIR shows that the Faculty of Veterinary Medicine has conducted a curriculum review workshop only shortly after the on-site visit in June 2024. Based on the impressions initially presented by the experts, several topics that were criticized with respect to the curriculum have already been addressed.

The initiated measures include emphasizing international content in program courses by integration of references from international journals and case studies around the world, providing an elective course on animal welfare (2 credits, 6 ETCS), and updating and renaming the course “Veterinary Entrepreneurship” to “Digitalization of Veterinary Entrepreneurship” (2/1 credits = 6/3 ECTS).

An already existing collaboration with the National Pintung University of Science and Technology, Taiwan (College of Veterinary Medicine and Department of Tropical Agriculture and International Collaboration) will be helpful to implement these changes at a sufficient content level.

In summary, the curriculum changes introduced are likely to integrate animal welfare more comprehensively into the curriculum, with a stronger focus on current and future needs and trends in this area.

Specifically for the MA-VA programme, UNAIR has already updated the curriculum as documented in a revised module handbook, which the experts positively regard. The following new modules have been implemented:

- Digitalization of Veterinary Entrepreneurship



- Veterinary Environmental & Waste Management
- International Animal Trade and Welfare Law
- Digitalization of Animal Welfare
- Veterinary Agribusiness and Sustainability Systems.
- Biosecurity Management and Animal Disease Control Based on One Health Perspective.

However, no adaptations of the curriculum have been documented for the MA-VDPH programme yet.

#### Criterion 1.6:

UNAIR states that the recent curriculum workshop also went a long way with a diversification of the teaching methodology in the respective courses. Specifically for the MA-VA programme, internships have been introduced in the “Digitalization of Veterinary Entrepreneurship” and “Agribusiness Management Systems”. Moreover, The number and destinations of field trips have been adjusted to provide students with enhanced exposure to industry practices, decision-making bodies in the field of veterinary agribusiness, and real-world applications of their studies.

The statement also describes that modern and interactive teaching methods such as student-centered learning, problem-based learning/ case-based learning, outcome-based education, collaborative learning and cooperative learning are already used in several courses. It is planned to use these methods in all courses of the two Master's programmes, which the experts welcome as a positive development.

In conclusion, the experts regard this criterion as **mostly fulfilled**.

## 2. Exams: System, concept and organisation

#### **Evidence:**

- Self-Assessment Report
- Module descriptions
- UNAIR Academic Guidelines
- Examples of Master theses
- Discussions during the audit

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

According to the Self-Assessment Report, the standard procedures for assessment of the teaching-learning process and learning outcomes used refer to the regulations regulated by Universitas Airlangga. The examinations should mirror the learning progress of the students during an individual course and be designed according to the used teaching and learning methods. Only students who attended at least 75 % of the classes are allowed to take the exam, except there are approved reasons as specified in the University Academic Study Guide. Approved reasons are sickness (proven by a medical letter), assignments to curricular and extra-curricular events outside campus, and other reasons approved by the Dean or Rector.

The exams are clustered into three different levels of difficulty and complexity. Each level aims to measure different facets of understanding, ensuring a comprehensive evaluation of learning outcomes. Per course, at least two different assessment methods/ components must be used by the lecturers. The most common examination methods include writing course papers, assignments such as oral presentations on course topics, and discussions. The examination methods and weightings applied in each course are outlined in the module descriptions.

The experts enquire more about the used assessment methods and learn that the exam methods are chosen in a way to encourage students in active engagement with the course contents. Unlike in undergraduate programmes of the faculty, there are no multiple choice tests on the Master level, which is positively regarded by the experts. They also raise the topic of fairness and bias in the grading of oral and practical assessments and are assured by lecturers that the grading is always done by two assessors, whose average mark is taken as grade for the student. The students confirm that they feel treated fairly. Students also positively comment the flexibility of the exam schedule, which is not bound to the official midterm and final exam weeks but spread over the semester weeks. In this way, although there are peak times, the study load is distributed more evenly across the semesters which facilitates the learning.

The final exam of both programmes consists of a Master's thesis. The thesis describes the students' ability to independently work on research projects at an appropriate Master program level. The thesis has to be defended in an oral presentation after the students have completed their research. A group of three examiners including the supervisor(s) assesses the quality of research, general and specific skills required by the program and their understanding of the related field.

The expert group also examine a selection of final theses and determine that they are of an appropriate academic level, but are focused more on practical application than basic

research. The experts acknowledge UNAIR's strong partnerships with industry, which have contributed significantly to developing industry-relevant knowledge. However, as the field is already well-established, the experts see the need for the academic programmes being reviewed to increase their focus on basic research.

The students' learning assessment is stated as an absolute number and an alphabetical score according to the following scale:

| Scale    | Letter Grades | Quality Index |
|----------|---------------|---------------|
| 86 – 100 | A             | 4             |
| 78 ≤ 86  | AB            | 3.5           |
| 70 ≤ 78  | B             | 3             |
| 62 ≤ 70  | BC            | 2.5           |
| 54 ≤ 62  | C             | 2             |
| 40 ≤ 54  | D             | 1             |
| < 40     | E             | 0             |

In case of failure or a low grade, students have one chance to take a remedial examination to improve the grade. Also, students have the right to lodge an appeal if they believe there was unfairness or error in the assessment process. Procedures and deadlines for submitting appeals are usually outlined in the university's academic regulations. The students are aware of these regulations and know at least one example in which an appeal was handed in against a grade. However, this case rarely applies as the students' grades are apparently very good: For the period since 2019, students of the MA-VA programme have constantly achieved a GP of 3.95 out of 4.00 and no drop-outs were registered. For the MA- VDPH programme, the GPAs were similarly high and the drop-out rates were 0.2 % per year at maximum.

In this regard, the experts raise the question, whether the assessment is done based on fixed standards or in relation to the study cohort. The experts remain uncertain about this matter as the given answers partly contradict each other. In their understanding, however, the grading is should be done based on fix criteria but a cohort comparison serves for understanding the students' needs to offer individual support.

As part of the graduation requirements the students must complete all of the courses with a minimum GPA of 3.00, a minimum score of B in the thesis modules, and hold a minimum TOEFL score of 500 at the end of their master's programme. If failed, students have one chance to take a re-sit exam. All exam scores are uploaded and published on the UNAIR's cyber campus within two weeks from the exam according to the academic calendar schedule.

In conclusion, the experts find the examination methods suitable for the assessment of the students' learning progress. The students are treated fairly and all the relevant rules and schedules are transparently accessible.

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

UNAIR clarifies that the assessment scheme is based on fixed standards and not a relative cohort comparison. The experts thank the university for this statement and regard this criterion as **fulfilled**.

### 3. Resources

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| <b>Criterion 3.1 Staff and Development</b> |
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**Evidence:**

- Self-Assessment Report
- Staff handbook
- Study plans
- Module descriptions
- UNAIR staff website: <https://unair.ac.id/en/lecturer-staff/>
- Discussions during the audit

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

For the Master's programme Veterinary Agribusiness there are 20 lecturers in total, of which 9 are Professors (45%), 7 are Associate Professors (35%), 3 are Assistant Professor (15%) and 1 is a Senior Lecturer (5%). Related to the number of 32 currently active students, this results in a ratio of 1.68 lecturers per student. For the Master's programme Veterinary Disease and Veterinary Public Health there are 12 Professors, 9 Associate Professors and 1 Senior Lecturer. The lecturer-student ratio in this programme is 1:2.05 in 2023.

All lecturers for both programmes belong to the Faculty of Veterinary Medicine and hold at least one doctoral degree in a field related to veterinary sciences, agribusiness or public health. The lecturers are well-regarded by the national research community as well as by students. Also internationally, the faculty's staff has recently gained recognition due to the development of a Covid vaccine in cooperation with UNAIR's medical department. In terms

of didactics, all lecturers have experienced pedagogical instruction training and hold a certificate of Technical Instructional Skills Training as well as a certificate of Applied Approach (PEKERTI-AA), issued by UNAIR.

The experts laud the very favourable number of academic staff per student which, as confirmed and positively stressed by the students, guarantees very close and personal supervision and learning support. However, they wonder about the level of staff qualification, as many lecturers only with a Master's degree appear on the faculty's staff website. However, the experts learn that the teaching is mandated to be done by lecturers who hold a degree at least one level above the course level. Thus, all courses of both Master's programmes are taught by lecturers who hold a PhD degree at least. The experts also note, that a high share of lecturers are UNAIR graduates themselves. In order to represent a broader perspective and gain more external/ international expertise, the academic background of the lecturers should be more diverse. The university points out that many of the professors have concluded parts of their education abroad, which is positively regarded by the experts. Also, it is planned to invite more international guest lecturers and experts from the business field which the experts strongly support and recommend.

Besides their regular teaching activities, lecturers have to carry out own research as well as community service, the so-called "three pillars" ("tridharma") of higher education in Indonesia. Additionally, the staff members are involved into committee work and supportive administrative duties at the university. The distribution of the three fields of duty depends on the academic position of the staff. The teaching load per lecturer is between 6 and 12 credit hours per semester.

In this regard, the experts enquire about the research opportunities of the staff members. The lecturers affirm that their research time is sufficient for them, although they assess the share of their workload that goes to research to be only 10 to 20 percent. The experts assess this to be very few and recommend to revise the distribution of the tridharma activities to give the academic staff more room for own research. It appears that the high administrative burden which the lecturers have to bear is the most hindering factor. The administration load could, e.g., be reduced by hiring additional support staff for this purpose.

Nevertheless, the lecturers are generally satisfied with the research environment provided by UNAIR and the Faculty of Veterinary Medicine. Financial support appears to be given and international collaborations with international partners, among others in Malaysia, the USA (Massachusetts) and Germany (DAAD) have been established in the past years.

As a critical matter in terms of research the experts mention the apparent lack of an independent committee to supervise the faculty's animal studies in terms of animal welfare. Although there is such a committee, its members are part of the faculty staff and conduct

animal studies in the labs themselves, which does not guarantee an independent perspective on the matter. As the topic of animal welfare has become a crucial issue also in the scientific context, the experts urge the university to redesign the supervisory board's structure.

In summary, the experts confirm that the composition, scientific orientation and qualification of the teaching staff are suitable for successfully implementing and sustaining both degree programmes.

### *Staff Development*

UNAIR describes in its Self-Assessment Report that it provides various opportunities for staff development. Besides the initial pedagogical training, which is compulsory for every lecturer, both the university as well as the individual departments provide funding for further training and also offer courses and workshops to guarantee continuous education themselves. According to the staff, the course offer is published transparently, and the courses can be taken on a voluntary basis.

However, judging from the on-site interview sessions as well as UNAIR's staff website, the experts find that the course offer is comparatively small and does not fulfil the necessary level of continuous development opportunities in all regards. Most of the courses are directed at leadership skills and research support, which was stressed by the lecturers and is positively regarded by the experts, as they see UNAIR on a good track towards becoming a renowned partner for research in the field. The staff is also granted university funds for their research. For successful publications in indexed and renowned academic journal, UNAIR provides financial rewards. An additional motivation for the junior academic staff is the promotion to higher academic levels as a step up in their careers. Furthermore, via the Airlangga Global Engagement (AGE) programme, the university supports outbound mobility of the teaching staff to attend international conferences, hold guest lectures and conduct joint research with foreign partners.

However, content-wise in terms of fundamental (international) research in the academic fields, as well as didactical methods the continuous learning offer is limited to non-existent. This relates to the before-mentioned room for improvement in terms of the course contents and the teaching methodology. The experts stress the need of up-to-date teaching methodology and course-content and therefore strongly recommend to extend the offer and implement a structured "teach-the-teacher" programme in that regard. Examples of courses could be (international) peer lectures, didactical seminars, and IT courses.

### **Criterion 3.2 Student support**

#### **Evidence:**

- Self-Assessment Report
- Discussions during the audit

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

According to both students and lecturers, the relationship between them is very close both in terms of academic and administrative matters. In general, students stress that the teachers are open-minded, communicate well with them, take their opinions and suggestions into account, and changes are implemented if necessary. As described in section **3.3**, there are also many facilities of which the students can make use if needed, such as a hospital and an affordable childcare service for students with children. Further, as confirmed by the students, there is a help centre for sexual harassment which provides different and anonymous contact channels.

In terms of technical support, all students at have access to the information management system which provides access to all online facilities such as student history, study plan, academic transcript and grade point average/GPA, lecturer evaluations, course lists etc.

Finally, there are several student organizations at UNAIR including student's activity clubs, which are divided into arts, sports, religious and other non-curricular activities.

The experts notice the good and trustful relationship between the students and the teaching staff; there are enough resources available to provide individual assistance, advice and support for all students. The support system helps the students to achieve the intended learning outcomes and to complete their studies successfully and without delay. The students are well informed about the services available to them.

### **Criterion 3.3 Funds and equipment**

#### **Evidence:**

- Self-Assessment Report
- Visitation of the facilities
- Discussions during the audit

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

The funding for both programmes is endured by the university-wide one-year Annual Work Plan and Budget. This plan specifies the necessary planning and budget allocation for man-

agement, operations, and development for achieving the goals of the individual study programmes. The main financial income sources of the university are threefold, as stated in the following table which was presented in the Self-Assessment Report:

|                                  | 2022  | 2021  | 2020  |
|----------------------------------|-------|-------|-------|
| Revenue from government funds    | 29,3% | 34,2% | 40,8% |
| Revenue from public funds        | 50,9% | 45,2% | 44,2% |
| Revenue of services and business | 19,8% | 23,5% | 21,9% |

In terms of the budget planning of the study programmes, the experts ask about the distribution of funds among the faculties. They learn that there is a centralized scheme for the distribution of financial resources for which the Head of Finances of UNAIR is in charge. The faculties have to apply for the funds needed for their programmes and equipment and are granted these funds based on their quality and justification of the needs. Thus, the financial support of the programmes does also not depend on the student numbers and the respectively incurred tuition fees, which the experts would have seen as a danger to both programmes because of the comparatively low student numbers. The tuition fees are determined by the faculties within a certain range but incurred and then distributed on the university level. As the Faculty of Veterinary Medicine is one of the oldest of its kind in Indonesia and enjoys a good reputation in the national community, it is also regarded well by the rectorate and appears to have a certain priority when it comes to funding issues. Overall, the programme coordinators appear satisfied with the procedure of fund distribution.

The Faculty of Veterinary Medicine provides well-equipped learning facilities, foremost 13 lecture rooms out of which four provide space for more than 50 people. All lecture rooms are located on UNAIR campus C, provide well-functioning Wi-Fi access and are equipped with modern blackboards and projector technology. In terms of practical facilities, there are laboratories, the library, reading rooms, meeting rooms, broadcasting rooms as well as student rooms which ensure a comprehensive environment for learning and teaching. Further facilities like stables and livestock centres are located out of the city centre. These, however, are not used for the two programmes under review.

The experts gain a good impression of the lecturing facilities for theoretical classes at the faculty. As the experts have learnt, practical teaching components are included only in the MA-VDPH programme. They stress that, especially for the understanding of the disease component, the practical work with diseased animals is crucial. Therefore, they visit different teaching and research laboratories as well as the university's own veterinary clinic.

The visited research and teaching laboratories do not comply with European safety standards due to outdated fire protection technology, missing procedural plans for emergencies



and missing periodic maintenance of safety-relevant research devices (centrifuges, safety cabinets). It is necessary to improve this situation, especially with regard to the maintenance of the equipment. Some of the newer machines will especially need regular maintenance to ensure that data collection remains accurate. This review is necessary to ensure the achievement of the intended learning objectives of the programmes.

Besides these specificities, the experts generally state that the facilities and equipment are sufficient for ensuring the practical teaching components. However, the faculty must necessarily put an emphasis on the maintenance, accessibility and safety measures of its facilities. As examples, the experts note that many of the used devices were controlled and calibrated for the last time in 2021, which might lead to distorted measurements and damage the quality of experimental results, and therefore, the research's integrity. Also, safety measures like evacuation plans, fire extinguishers, first aid kits and appropriate storage facilities for chemicals are partly missing or expired. Lastly, many laboratories are accessible only via staircases and elevators were missing, which prevents students and staff with certain disabilities or limitations to use them. It is reported that the university has planned to build an elevator in the biomolecular laboratory building. The experts welcome this effort and stress the need to make all the buildings and facilities accessible in that way.

As a concluding advice regarding the laboratories, the experts recommend to appoint respectively hire at least one technical staff member to establish a structured plan and monitoring process for the maintenance, equipment, use and safety of the lab facilities. Because of the specificities of the required equipment as well as the necessary safety measures, this cannot be done by regular facility management staff but instead requires expertise in the practical field. This would also further relieve the academic staff from the administrative duties of lab maintenance.

In terms of support facilities, UNAIR's library provides a broad selection of recent journals and academic literature both online and offline. This includes the access to scientific databases, among which are ScienceDirect, SpringerLink, EBSCOhost, ProQuest, SAGEjournals, JSTOR, ACS Publications, HUKUMONLINE.COM, HeinOnline, Oxford Academic, and Taylor & Francis. Besides the main library, the faculty has an own, smaller library with more specific literature and additional workspaces. As mentioned before, the experts note that the programmes rely on national research journals to a large extent. Judging from the list of subscribed journals, this appears to not be a question of availability but of awareness. The experts therefore urge both lecturers and also library staff to help students in broadening their perspectives and knowledge by stressing the need and forcing them to increase the use of international peer-reviewed literature.

Additional supporting facilities provided by UNAIR are a guidance and counselling centre (DPKKA), separate male and female student dormitories, a cafeteria, a language centre, a child care service, a health service centre, and the Universitas Airlangga Hospital. The students confirm the availability of learning and support facilities both on-campus and online and express their satisfaction with the resources.

In summary, the expert group judges the available funds, the technical equipment, and the infrastructure (laboratories, library, seminar rooms etc.) to comply – besides the mentioned restrictions – with the requirements for adequately sustaining the degree programmes.

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

Criterion 3.1:

UNAIR presents different measures that will be implemented to better balance the workload distribution of its academic staff to enable them to conduct more high-quality research activities. Also, the continuous development course offer is explained to be expanded.

Furthermore, UNAIR presents its plan to invite more guest lecturers and strengthen international teaching collaborations, which the experts regard as positive to strengthening the university's international standing and gaining a deeper insight into the needs of the international aspects of veterinary agribusiness, animal diseases and public health.

With respect to the workload distribution of the teaching staff, UNAIR has started the implementation of digitalization processes for various administrative tasks, such as lectures, exams and other academic activities. This digital transformation has already reduced the administrative burden for the lecturers. In addition, the Vice Dean II is actively pursuing the hiring of additional administrative staff through a proposal that has already been submitted to the University Human Resources Department and the Vice Rector II for approval.

To enhance the international mobility, outbond programs for staff and students have been set up to promote academic mobility. Also, collaboration with NPUST should help to increase academic mobility. The experts believe that UNAIR is well aware of the need to increase academic mobility and will do its best to achieve this.

Criterion 3.3:

UNAIR presents a strategic plan to commit to the updating and maintenance of laboratory facilities and equipment, as well as the improvement of safety measures. The improvement of accessibility of the labs for people with special needs will be prioritized. The responsibility of these processes will be put in the hands of an additional technical staff member. A

budget of IDR 129.237.000 (EUR 7,461) has additionally been allocated for this purpose in this year. While the experts consider the described measures as certainly helpful, they stress that the care/maintenance has to be executed according to the manufacturer's instructions, which does not become clear from the statement. Otherwise, there is a high risk that - as in the past - equipment becomes installed without planning a sufficient budget for an adequate maintenance service. This forward-looking planning is necessary, as maintenance of the lab equipment is costly and requires specific expertise.

Furthermore, the university provides an overview over the international literature it provides to the students. The experts acknowledge this but still stress the need of introducing the students to this literature such that they can make use of it for their research projects.

Based on the statement, the experts consider this criterion to be **mostly fulfilled**.

## 4. Transparency and documentation

### Criterion 4.1 Module descriptions

#### Evidence:

- Self-Assessment Report
- Module descriptions
- Homepage UNAIR: <https://unair.ac.id/en/>

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

There are well-prepared and transparent module handbooks which complement the curricular overviews of both Master's programmes with all the necessary content-related and practical information, such as course title, awarded credit hours, responsible lecturers, intended learning outcomes, knowledge prerequisites, and examination formats. However, the handbooks should be made available next to the curriculum on the programmes' webpages to increase transparency and accessibility for the students, as well all other stakeholders.

### Criterion 4.2 Diploma and Diploma Supplement

#### Evidence:

- Self-Assessment Report
- Sample Certificate and Transcript of Records for each degree programme
- Sample Diploma Supplement for each degree programme

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

The experts confirm that the Master's students are awarded a Diploma and a Diploma Supplement after graduation. The Diploma, formulated both in Bahasa Indonesia and English language, consists of a Diploma Certificate and a Transcript of Records. The Transcript of Records lists all the courses that the graduate has completed, the achieved credits, grades, and cumulative GPA. The Diploma Supplement contains all required information about the degree programme.

### **Criterion 4.3 Relevant rules**

#### **Evidence:**

- Self-Assessment Report
- All relevant regulations as published on the university's webpage
- Discussions during the audit

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

The auditors confirm that the rights and duties of both UNAIR and the students are clearly defined and binding. All rules and regulations are published in form of the handbooks on the university's website and hence available to all relevant stakeholders.

In addition, the students receive all relevant course material in the language of the degree programme at the beginning of each semester. However, the university must make sure that the English websites are always updated with the same information as the Indonesian websites. This concerns especially the information regarding the MA-VDPH programme, whose name was changed recently. Notably, not all the names and titles have been adapted yet in all documents, which must necessarily be reviewed.

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

UNAIR states, that more international literature will be used in the course work of both programmes, as indicated in the reading lists contained in the updated module handbooks.

The experts also note that UNAIR is currently one of only few universities in Indonesia that has an institutional animal care and use. To guarantee the independence of the reviewers of an animal study, it is ensured that no scientist who is a member of this committee reviews his or her own animal study.

Based on that, the experts consider this criterion to be **fulfilled**.

## 5. Quality management: quality assessment and development

### **Evidence:**

- Self-Assessment Report
- UNAIR Academic Guidelines
- Discussions during the audit

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

According to the Self-Assessment report, Universitas Airlangga and the Faculties of Veterinary Medicine employ a comprehensive system of external (EQA) and internal quality assurance (IQA), as prescribed by Indonesian law.

In terms of IQA, the most important instrument is the regular curriculum review which is executed every five years by the Curriculum Review Committee. This committee unites all stakeholders of the programmes, such as faculty staff, students and industrial representatives and pursues the task of designing the programmes' curricula to match the current and future challenges of the respective academic and professional fields. Both students and industrial representatives confirm that they have the opportunity to participate in this review process.

Further, UNAIR has developed its Quality Assurance Information System Management which is led by the Quality Assurance Board (QAB). It conducts two quality management procedures:

- On an annual basis, the study program coordinators have to file a self-evaluation online report which is evaluated and audited by a committee of the QAB.
- The curriculum, courses, academic activities, and academic services are evaluated semi-annually by students, lecturers and staff.

The evaluation by students is parted into three different types: (1) The first-year evaluation monitors the initial satisfaction of student entrants and whether their expectations were fulfilled. (2) The class evaluation is done for each class in each semester to assess the learning experience for the modules. Lastly, (3) a graduation evaluation at the end of a students' careers at UNAIR assesses the management and organization of graduation processes. These regular, structured evaluation channels may be appended by unstructured evaluation formats to meet special needs and/or regular voluntary monitoring, as it was done to assess the quality of online learning during the Covid pandemic.

The students confirm that there are various surveys and other channels of feedback regarding the programmes and individual courses. The completion of the course surveys is mandatory in the sense that students cannot access their grades and materials in the cyber campus without having completed the evaluation forms. As their relationship is very close with the academic staff, they also discuss many of their challenges and feedback in informal ways. However, the students state that they do not receive any information about the measures which were taken in response to their feedback. As this is crucial to the awareness of the students for quality assurance and the motivation to further strive for the programmes' quality enhancement, the experts require the university to close the formal feedback cycle by providing students with information about their feedback and the respectively taken measures.

Additionally, a tracer study conducted by the Directorate of Career Development, Business Incubation, Entrepreneurship, and Alumni Affairs monitors the professional progress of alumni after their graduation. According to this study, job perspectives for graduates of both Master's programs are veterinary medical personnel, entrepreneurs, extension workers, civil servants, researchers, lecturers, and veterinary representatives.

The results of all surveys are discussed on the faculty level during the annually-held Management Review Meeting (RTM). This meeting was established to coordinate the needs and ideas of all stakeholders of the study programmes by discussing their progress, achievements, and future plans. The results are also discussed in the Quality Assurance Units which decide measures and necessary actions to improve the quality of the programs. This board is also responsible for addressing the needs on higher levels of the university administration, if necessary.

Also, lecturers are given the opportunity for providing feedback on the leadership of the faculty as well as the facilities and other services. The results of this evaluation are discussed in faculty meetings. Lastly, also external third parties and alumni have the option to evaluate the curriculum and provide suggestions for enhancing the programmes' quality through online forms and annually held faculty events. In the discussion session with the industry representatives, the experts also learn that the faculty members keep close contact with their industry contacts which opens direct and informal lines for feedback and improvement suggestions outside the formal procedures at any time.

In terms of external quality assurance, the Law of the Republic of Indonesia No 12/2012 (article 55) obliges higher education institutions to be accredited at least by the Indonesian National Accreditation Board for Higher Education (BAN PT). In addition to national accreditation, UNAIR encourages faculties to be accredited by international bodies and set this goal in their strategic performance management system (SPMS). So far, nearly 100 study

programmes have been accredited by international agencies including ASIIN. The experts encourage the university to further pursue this path of international accreditation for the continuous quality development and international recognition of its study programme offer.

The experts praise UNAIR's strive for excellence and its manifold efforts to collect feedback and implement the suggestions into their education programmes and procedures. The quality assurance system is very elaborate both in the structured, formal way and the channels for direct informal communication. The experts note the open feedback culture and express their gratitude for the warm welcome, the honest answers, and the open-mindedness to their feedback to further improve the quality of both Master's programmes under review.

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

UNAIR provides publicly available download links on the programmes' websites which contain protocols and documentation of feedback results and follow-up measures.

Given this information, the experts consider this criterion as **fulfilled**.

## D Additional Documents

Before preparing their final assessment, the panel asks that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

- Statistics of application numbers (before pre-sorting)
- Results of tracer studies and evaluation results



## E Comment of the Higher Education Institution (13.08.2024)

UNAIR provides the following statement:

1. Feedback: "During the on-site interviews, the experts learn that the programme is highly business-oriented while the veterinary component serves only as a conceptual basis. The designated job opportunities for graduates of this programme are leading positions in animal farms and hospitals. Furthermore, many active students are already entrepreneurs themselves and stated to have chosen the programme to enhance their managerial and business-related skills in the field of veterinary agribusiness → page 9

**Response:** In reality, the programme not only provides a conceptual basis, but also includes field trips to deepen the material and enhance practical skills directly. Follow-up actions include a curriculum redesign held on June 24-25, 2024, attended by external stakeholders (stakeholders, alumni, expert speakers) and internal members (Faculty and University leaders, academic staff, and students). This is reflected in courses like Veterinary Entrepreneurship (2 credits = 6 ECTS, changed to 2/1 credits = 6/3 ECTS), Agribusiness Management Systems (2 credits = 6 ECTS, changed to 2/1 credits = 6/3 ECTS), and Social Project and Internship (2 credits) (6 ECTS). Additionally, a new curriculum component, Social Project Internship, has been added. Each of these courses now includes an internship programme worth 1 credit (3 ECTS).

Regarding **the Master of Veterinary Agribusiness**, to address concerns regarding the balance between veterinary scientific content and business content, we have analyzed the proportion of veterinary scientific courses compared to business courses in the redesigned curriculum.

### **Courses focusing on Veterinary Scientific Science: Total of 90 ECTS**

1. Veterinary Genetic Engineering: 2 credits=6 ECTS
2. Veterinary Environmental & Waste Management: 3 credits= 9 ECTS
3. Veterinary Agribusiness and Sustainability Systems (SDGs): 2 credits=6 ECTS
4. Biosecurity Management and Animal Disease Control based on One Health Perspective: 2 credits=6 ECTS

5. Veterinary Data Science (Research methodology): 2 credits=6 ECTS
6. Commodity Animal Feed Management: 2 credits
7. Thesis: 6 credits=18 ECTS
8. Applied Biomolecular (Elective): 3 credits = 9ECTS
9. Cell Biology (Elective): 2 credits=6 ECTS
10. Animal Hospital Management (Elective): 2 credits=6 ECTS
11. International Animal Trade and Welfare Law (Elective): 2 credits=6 ECTS
12. Veterinary Commodity Production Process Management: 2 credits = 6 ECTS

**Courses focusing on Veterinary Agribusiness: Total 63 ECTS**

1. Agribusiness Policy Analysis: 2 credits 6 ECTS
2. Digitalization of Veterinary Entrepreneurship (Internship): 3 credits= 9 ECTS
3. Social Project and Internship: 3 credits= 9 ECTS
4. Management Accounting: 2 credits= 6 ECTS
5. Veterinary Marketing Management (add internship): 2 credits =6 ECTS
6. Agribusiness Policy Analysis (Elective): 2 credits= 6 ECTS
7. Applied Statistical Analysis of Agribusiness (Elective): 2 credits= 6 ECTS
8. Veterinary Business Commodity Management: 2 credits = 6 ECTS
9. Veterinary business commodity analysis and planning: 3 credits = 6 ECTS

The redesigned curriculum offers a balanced approach, **with 58.82% of the courses focusing on veterinary scientific science and 41.17% on veterinary business-related subjects.** This balance ensures that while the program enhances managerial and business skills, it also maintains a strong foundation in veterinary science, which aligns well with the graduate profile and learning outcomes of the veterinary agribusiness program, including roles such as Planner, Innovator, Manager, Entrepreneur, and Researcher.

It is important to note that while business courses are included in the curriculum, they do not constitute the majority of the curriculum content.

Supporting Evidence: Documentation of the redesigned curriculum, and the module handbook for the three related courses. **(Appendix 1 - New Module Handbook)** and **(Appendix 2 - Redesign Curriculum Document Master's Program of Veterinary Agribusiness)**.

2. Feedback: "Nevertheless, the experts point out that the Learning Outcomes mainly serve the current national Indonesian labor market while the international perspective comes short in this regard. They suggest that a more international focus on the programmes' objectives and contents would benefit both the university and faculty in terms of international reputation and research collaborations, as well as the Indonesian labor market since the national industry requires increasing its productivity, updating its practices e.g. regarding the topic of animal welfare, and keeping up with international business trends to not lose its market."

**Response:** A curriculum redesign was held on June 24-25, 2024, attended by external stakeholders (stakeholders, alumni, expert speakers) and internal members (Faculty and University leaders, academic staff, and students). To enhance the international reputation and research collaborations, the Master of Veterinary Agribusiness program has initiated a double degree program with the College of Veterinary Medicine and the Department of Tropical Agriculture and International Collaboration at the National Pingtung University of Science and Technology (NPUST), Taiwan. This collaboration allows students to benefit from international classes and research, providing them with global insights and experience.

The program emphasizes international content in its courses by integrating references from international journals and case studies from around the world. For instance, an elective course on animal welfare (2 credits = 6 ECTS) has been added, focusing on global standards and practices, which aligns with the needs of the Indonesian labor market to keep up with international business trends. Furthermore, the course Veterinary Entrepreneurship (2 credits = 6 ECTS) has been updated to Digitalization of Veterinary Entrepreneurship (2/1 credits = 6/3 ECTS) to reflect the latest trends in digital business practices on a global scale.

Our faculty members have a strong international presence, with many having published in reputable international journals and possessing extensive global networks and recognitions. These attributes ensure that students receive an education grounded in current international research and practices.

Moreover, the both master program has established international collaborations, such as the MoU between FVM UNAIR and NPUST, which supports these initiatives and provides

opportunities for our students to engage in international research and academic exchanges (Outbound and inbound). This international exposure is designed to prepare graduates to meet the demands of the global job market. We expect our graduates to be well-equipped to pass the international job market, accommodating the goals of internationalization for our students.

Supporting evidence: MoU between FVM Unair and NPUST, Animal Welfare module handbook, and Digitalization of Veterinary Entrepreneurship module handbook. (**Appendix 1 New Module handbook**) and (**Appendix 2 Redesign Curriculum Document Master's Program of Veterinary Agribusiness**)

3. Feedback: "In terms of the degree titles, the experts wonder why the awarded degrees of both programmes differ. To them, it appears especially incomprehensible why the MA-VA programme is awarded with an M.Vet degree, as the programme focuses more on the agribusiness component. Therefore, the experts recommend to change the degree title into M.Sc like for the MA-VDPH programme."

The experts learn that the name of the MA-VDPH programme was recently changed from "Veterinary Medicine and Public Health," which can still be found in some documents and websites. This change was made in response to market needs that the programme should strengthen its focus on the public health component. The experts see this reflected in the Learning Outcomes but not in the curriculum (see section 1.3), which needs to increase the emphasis on modules on public health. Further, they recommend specifying the name of the programme since it does not cover all, but only infectious diseases which are relevant for the public health component of the programme.

#### **Response:**

##### **Response for Master of Veterinary Disease and Public Health (MA-VPDH):**

The name of the Veterinary Disease and Health Science study program is in accordance with the learning outcomes and profile of graduates. This alignment is supported by **the Rector's Regulation No. 5 year 2023 on Academic Degrees and Study Program Names**, ensuring that the names and degrees comply with university regulations. The programme title was updated to reflect its emphasis on public health and infectious diseases, aligning with market needs and regulatory requirements. As evidenced by the updated diplomas and transcripts, the name change is now consistently implemented across all official documents and communications.

The Veterinary Disease and Public Health (VDPH) programme's focus on public health and infectious diseases is reflected in its learning outcomes. However, to address the feedback,

the curriculum will be revised to include more modules on public health, ensuring comprehensive coverage of the relevant topics. This revision aligns with the market demand for expertise in infectious diseases and public health.

**Supporting evidence:** Updated diplomas and transcripts (Diploma and transcript Certificate of Master Veterinary Agribusiness and MA-VDPH ) and **Rector's Regulation No. 5 year 2023 (Rector Regulation on Academic degrees and study program name)**

#### **Response for Master of Veterinary Agribusiness:**

The Master of Veterinary Agribusiness (M.Vet) programme's degree title is consistent with the learning outcomes and the profile of graduates. This programme integrates veterinary science and agribusiness, preparing graduates for roles that require both veterinary expertise and business acumen. The comprehensive curriculum, which includes modules on veterinary entrepreneurship and digitalization, aligns with the M.Vet designation and is designed to meet the needs of the agribusiness sector.

The suggestion to change the degree title to M.Sc has been carefully reviewed. Maintaining the M.Vet title is essential to highlight the veterinary focus of the programme, which is crucial for meeting industry demands and ensuring graduates possess the necessary veterinary competencies. According to **The Rector's Regulation No 5 the Year 2023 on Academic Degrees and Study Program Names and based** on Study Programme Curricula provides guidelines on curriculum development, ensuring that the content of the Master of Veterinary Agribusiness programme appropriately reflects its title.

Supporting evidence: **Rector's Regulation No. 5 Year 2023 (Rector Regulation on Academic degrees and study program name)**, updated ijazah/diplomas and transcripts, Animal Welfare module handbook, and Digitalization of Veterinary Entrepreneurship module handbook. (Appendix 1 New Module handbook) and (Appendix 2 Redesign Curriculum Document Master's Program of Veterinary Agribusiness)

4. "The experts are satisfied with the programme's structure but point out that a significant number of important topics are missing in the curriculum. Some of the topics like animal welfare, sustainability, international animal trade and welfare law, waste management, and climate change are addressed as parts of courses; however, given their importance in the current (international) developments of the field, they should be given more emphasis by designing independent modules."

This relates to the necessary update of the concepts of animal welfare and sustainability which the experts see in the Indonesian definition of these topics. Internationally, these

concepts have grown and changed rapidly in definition, range, and importance over the past decade, and new standards have evolved. Therefore, to cover the extensive contents of these topics and familiarize the students with international standards, the way these topics are included in the programme must necessarily be upgraded. In this regard, the experts again stress that the rise of these standards represents a strong business case because international customers require these standards and companies who do not comply with these measures will be driven out of the market shortly.

Given the strong business focus of the programme, the experts are also missing topics like policy analysis, digitalization, and data management as parts of the curriculum. These topics should be included in the curriculum to equip students with the necessary skills to increase their businesses' productivity, foster innovation, and keep up with fast-changing, international markets. This need is also represented by the students' wish to gain more practical insights into the business context. So far, the programme offers field trips only to farms and hospitals. However, field trips should rather go to decision-making entities on a higher level, like ministries, trade chambers, livestock companies, and international associations, to give the students a broader, more long-term and innovative perspective on the business. This would be additionally enhanced by implementing an internship into the curriculum, which would also be supported by the industrial partners. Lastly, the experts also recommend including a module on communication strategies and intercultural competencies to strengthen the soft skills which were mentioned as a weak point by industrial partners. They see great potential to successfully implement these modules by increasing co-operation among UNAIR's different faculties (e.g., with the Faculty of Business and Economics, the Faculty of Communication), UNAIR's start-up and incubation business development board, as well as with other national universities.

**Response:** In response to the feedback regarding the need for greater emphasis on critical topics such as animal welfare, sustainability, international animal trade and welfare law, waste management, and climate change, we have made substantial updates to the curriculum of the Master of Veterinary Agribusiness and IPKMV programs.

To address these areas comprehensively, we have introduced a new Module Handbook, which includes the following courses:

**Master of Veterinary Agribusiness:**

1. **Digitalization of Veterinary Entrepreneurship (2 Credits course =6 ECTS):** This course examines how digital technologies can transform veterinary business practices and foster innovation in entrepreneurship.

2. **Veterinary Environmental & Waste Management** (3 credits = 9 ECTS): This module covers environmental management and waste handling within veterinary contexts, including waste types, disposal methods, and climate change impacts.
3. **International Animal Trade and Welfare Law** (2 Credits course =6 ECTS): This course offers a detailed exploration of global regulations and legal frameworks related to international animal trade and welfare.
4. **Digitalization of Animal Welfare** (2 Credits course = 6 ECTS): This module focuses on the application of digital tools and technologies to improve and monitor animal welfare practices.
5. **Veterinary Agribusiness and Sustainability Systems (SDGs)**: This course integrates sustainability principles into veterinary agribusiness, aligning with Sustainable Development Goals (SDGs) to promote sustainable practices in the industry.
6. **Biosecurity Management and Animal Disease Control Based on One Health Perspective**: This module addresses biosecurity measures and disease control strategies from a One Health perspective, emphasizing the interconnectedness of human, animal, and environmental health.

#### **Master of Veterinary Disease and Public Health:**

1. **Animal Welfare** (2 credits/ 6 ECTS): This course provides advanced insights into animal welfare and legislative frameworks, building on foundational knowledge of veterinary law.
2. **Advanced Veterinary Legislation** (2 credits = 6 ECTS): This module offers an advanced examination of veterinary laws and regulations, equipping students with a thorough understanding of legal issues affecting veterinary practice.

Additionally, we are enhancing the curriculum to include content on policy analysis, digitalization, and data management to better equip students with skills necessary for increasing productivity, fostering innovation, and adapting to dynamic international markets.

In response to students' requests for practical experience, we will expand field trip opportunities to include visits to high-level decision-making entities such as ministries, trade chambers, livestock companies, and international associations. Furthermore, we are incorporating an internship component into the curriculum, supported by our industrial partners.

To foster entrepreneurship, students will also be involved in developing business proposals, which will be incubated by the National Research and Innovation Agency (BRIN). This initiative aims to provide hands-on experience and support for innovative business ideas within the veterinary field.

These updates are designed to ensure our programs align with international standards and provide a comprehensive and relevant educational experience for our students.

5. "While the experts generally praise the attractiveness of the number of elective courses, they wonder how these courses are taught if only 15 students take the programme per cohort. The lecturers explain that every course is taught even if only one student chooses it. In practice, however, this case rarely happens such that there is no general problem regarding the course offer."

Secondly, also for this programme the experts see the need to include new modules and highlight certain topics and competencies. Especially the field of public health as the strategic and prevention-oriented connection between veterinary and human health issues must be addressed differently: Core modules of the discipline which must be necessarily included in the curriculum concern the topics of animal welfare (on the previously mentioned international standard) and one health, as well as food hygiene, food safety and international food law

**Response:** The Master of Veterinary Agribusiness and IPKMV programmes have added a new course specifically on Animal Welfare (2 credits/ 6 ECTS) and developed a separate module handbook (**Appendix 1\_New Module Handbook**) dan (**Appendix 2 Redesign Curriculum Document Master's Program of Veterinary Agribusiness**).

We acknowledge the concerns regarding the number of students enrolled in elective courses. Both Master programme has established a policy wherein an elective course will be offered if a minimum of 5 students enrolls. However, in special circumstances, such as when a course is crucial for thesis support and cannot be substituted by another course, it will be conducted even if there is only one student enrolled. Such cases are exceptionally rare.

Additionally, we are pleased to inform you that the Master of Veterinary Agribusiness and master of Veterinary Disease and Public Health programmes have incorporated a new course specifically focused on Animal Welfare (2 credits/6 ECTS) and have developed a separate module handbook to support this inclusion. Please refer to **Appendix 1 (New Module Handbook)** and **Appendix 2 (Redesign Curriculum Document for the Master's Programme of Veterinary Agribusiness)** for further details.



Regarding the feedback on IPKMV, we accept it without negotiation and will address it as recommended.

6. However, at present, not even one international student is enrolled in both programmes under review, which is critically regarded by the experts, given the reputation and strive towards internationalization of UNAIR →page 17"

**Response:** In fact, there have been foreign students applying, but they did not meet the minimum requirements in subjects like biology, biochemistry, mathematics, and their GPA was below the minimum threshold for admission to the master programmes at FVM UNAIR. As a next step, FVM UNAIR has initiated a double degree programme with the College of Veterinary Medicine, NPUST, to attract foreign students to study in the Agribusiness and IPKMV programmes. Additionally, both master programmes are conducting guest lectures, international research and publication collaborations, international seminars, staff outbound, and student outbound programmes.

We acknowledge the concerns regarding the current lack of international students enrolled in both programmes. To address this issue, we have outlined several strategic initiatives:

1. **Double Degree Programmes:** FVM UNAIR has initiated a double degree programme with the College of Veterinary Medicine and the Department of Tropical Agriculture and International Cooperation at NPUST. This initiative is designed to attract foreign students to our Veterinary Agribusiness and Veterinary Diseases and Public Health programmes and facilitate international academic exchange (Outbound and In-bound).
2. **Scholarships:** We are exploring the inclusion of these master programmes in the ADS (Airlangga Development Scholarships) offered by UNAIR. This will provide financial support and attract more international students.
3. **International Collaboration and Promotion:**
  - **Guest Lectures:** We are organizing guest lectures aimed at attracting international applicants. These events are systematically planned to promote our programmes and enhance our visibility globally.
  - **International Conferences:** We are organizing international conference aimed at attracting international applicants. These events are systematically planned to promote our programmes and enhance our visibility globally.

- **Research and Publication Collaborations:** We continue to engage in international research and publication collaborations to build our academic reputation and attract international scholars and students.
- **International Community Services:** We are organizing international community services also aimed at attracting international applicants. These events are systematically planned to promote our programmes and enhance our visibility globally.
- **Promotional Campaigns:** We are actively promoting our programmes through various campaigns targeted at universities abroad (example: including offering the free dormitory for international students in Double Degree Program). This includes attending international education fairs and collaborating with international institutions to attract inbound students.

#### 4. Inbound and Outbound Programmes:

- **Staff and Student Mobility:** We have established staff and student outbound programmes to foster international exposure and collaboration.
- **Curriculum Adaptation:** Our curriculum has been adapted to support double degree programmes, ensuring that it meets international standards and requirements.

By implementing these strategies, we aim to enhance our international appeal and increase the number of international students in our master programmes.

7. "Given the good reputation of UNAIR and the veterinary faculty, the experts wonder about the low numbers of applicants for both programmes. The university explains that the provided statistics contain only the numbers of applications that have passed the formal and performance-based requirements and were admitted to the admission interviews. As the number of initial applications constitutes a key figure, the experts ask the faculty to include all initial applications in the statistics and provide the data accordingly to assess indicators like acceptance rates. → page 19"

#### Response:

The number of applicants and new students enrolled in master's programs in veterinary agribusiness and master's programs in veterinary diseases and public health

| Number of new students enrolled in master's programs in veterinary agribusiness |                             |      |      |      |      |      |
|---|-----------------------------|------|------|------|------|------|
|   |                             | Year |      |      |      |      |
|   | Number of New Students      | 2019 | 2020 | 2021 | 2022 | 2023 |
|   | Number of registrants       | 5    | 9    | 20   | 15   | 15   |
|   | Number of accepted students | 3    | 9    | 20   | 14   | 13   |

| Number of new students enrolled in master's programs in veterinary diseases and public health |                             |      |      |      |      |      |
|---|-----------------------------|------|------|------|------|------|
|   |                             | Year |      |      |      |      |
|   | Number of New Students      | 2019 | 2020 | 2021 | 2022 | 2023 |
|   | Number of registrants       | 15   | 14   | 15   | 17   | 21   |
|   | Number of accepted students | 15   | 14   | 15   | 15   | 19   |

#### Student's rate of master agribusiness veterinary

|     |                               | 2019 | 2020 | 2021 | 2022   | 2023   |
|-----|-------------------------------|------|------|------|--------|--------|
| (1) | (2)                           | (3)  | (4)  | (5)  | (6)    | (7)    |
|     | Number of new students        |      |      |      |        |        |
|     | - Number of registrants       | 5    | 9    | 20   | 15     | 15     |
|     | - Number of accepted students | 3    | 9    | 20   | 14     | 13     |
|     | - Acceptance Rate             | 60%  | 100% | 100% | 93.33% | 86.67% |

### Student's rate of master veterinary diseases and Public Health

|     |                               | 2019 | 2020 | 2021 | 2022   | 2023   |
|-----|-------------------------------|------|------|------|--------|--------|
| (1) | (2)                           | (3)  | (4)  | (5)  | (6)    | (7)    |
|     | Number of new students        |      |      |      |        |        |
|     | - Number of registrants       | 15   | 14   | 15   | 17     | 21     |
|     | - Number of accepted students | 15   | 14   | 15   | 15     | 19     |
|     | - Acceptance rate             | 100% | 100% | 100% | 88.24% | 90.47% |

8. Nevertheless, the experts wonder how students can combine the full-time study programmes with full-time jobs. →page 21"

**Response:** There are master students who are already employed, but they receive a study assignment letter from their institutions, which exempts them from their job duties while they pursue their master's studies for a maximum of four semesters. Additionally, some students are self-employed, allowing them more flexibility to manage their time for study and work without disrupting their studies.

9. The program should put more emphasis on the development of practical skills. As a first measure, the number and destinations of field trips should be adapted (see also section 1.3). Also, practical components could include case study projects as well as innovation and business competitions among students. Finally, the experts strongly recommend including an internship in the curriculum. → Page 23

#### **Response:**

In response to the feedback regarding the need to emphasize the development of practical skills in **the Master of Veterinary Agribusiness programme**, several measures have been taken:

1. **Curriculum Redesign:** On June 24-25, 2024, we conducted a comprehensive curriculum redesign workshop. This workshop was attended by external stakeholders (including industry professionals, alumni, and expert speakers) as well as internal parties (faculty and university leaders, academic staff, and students).

2. **Introduction of Internship:** We have integrated an internship component into the Veterinary Agribusiness curriculum. The following courses have been updated to include practical elements and internships:
- **Veterinary Entrepreneurship:** Originally 2 credits (6 ECTS), it has been updated to include an internship component, now valued at 2/1 credits (6/3 ECTS).
  - **Agribusiness Management Systems:** Also updated from 2 credits (6 ECTS) to 2/1 credits (6/3 ECTS), incorporating practical experience.
  - **Social Project and Internship:** A new course introduced to the curriculum, valued at 2 credits (6 ECTS), specifically designed to include an internship.
3. **Field Trips:** The number and destinations of field trips have been adjusted to provide students with enhanced exposure to industry practices and real-world applications of their studies.

Supporting evidence: These changes are reflected in the updated curriculum and are supported by comprehensive documentation:

- **Documentation of Curriculum Redesign:** Includes photos and records from the redesign workshop.(feedback 1)
- **Handbook Modules:** Detailed descriptions of the revised courses are available in the new module handbook (Appendix 1: New Module Handbook) and the redesign curriculum document (Appendix 2: Redesign Curriculum Document Master's Program of Veterinary Agribusiness).

By implementing these measures, we aim to ensure that our students acquire the practical skills necessary to excel in their field and meet the demands of the veterinary agribusiness industry.

10. Unfortunately, the equipment in the teaching labs is often outdated, and due to a lack of maintenance service, the functional integrity of the devices is not guaranteed (see also section 3.3). This situation not only impacts academic quality and work safety but also limits the ability of the two Master's programs to teach practical skills at the technical level required by employers in industry and on an international level. → Page 23

**Response: Response:**

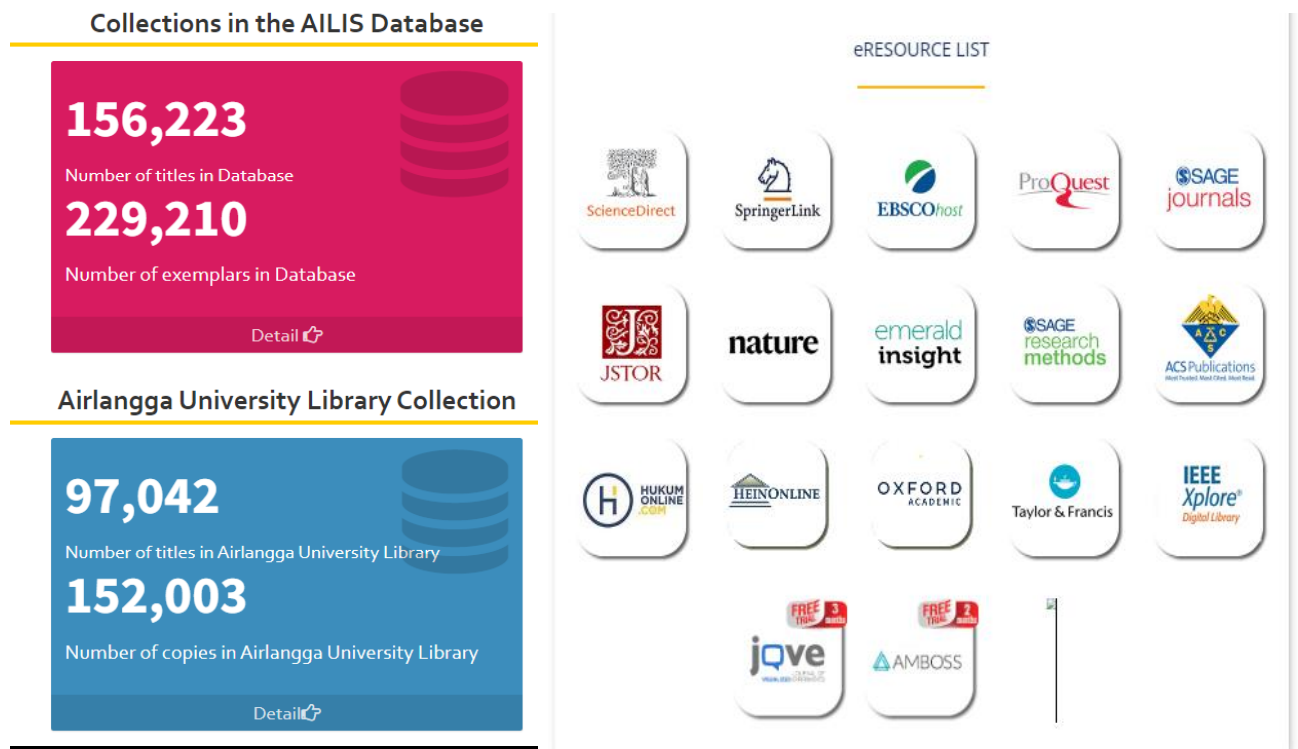
We acknowledge the concerns regarding the outdated equipment and the lack of maintenance in our teaching laboratories. Addressing these issues is a priority for us, and we have taken the following steps to ensure improvements:

1. **Commitment to Improvement:** Vice Dean II has committed to enhancing our laboratory facilities starting this year. We have allocated a specific budget for the maintenance of laboratory equipment. For the current fiscal year, on average, **a budget of IDR 129.237.000** has been allocated for this purpose.
2. **Updated Laboratory Facilities:** The use of laboratory facilities for education, teaching, and research uses facilities and infrastructure that have been provided by the university for the entire academic community in ITD laboratories (Lab. Research Center for Vaccine Technology Development (RCVTD), Lab. Stem-cell, Lab. Influenza) (<https://itd.unair.ac.id/itd/index.php/laboratory/>) and LIHTR (<https://lihtr.unair.ac.id/>).
3. **Equipment Updates:** Each year, we submit requests for updated laboratory equipment. The fulfilment of these needs is prioritized and executed on a rotational basis. This ensures that all departments benefit from updated equipment over time.
4. **Maintenance and Training:** We have implemented routine maintenance services, including regular care and cleaning of lab equipment. Additionally, laboratory staff are provided with opportunities to attend workshops on maintaining laboratory equipment to ensure that they are well-trained in handling and preserving the integrity of our facilities.

These measures are intended to enhance the functional integrity of our laboratory devices, ensuring a safer and more effective learning environment. By doing so, we aim to improve the academic quality and work safety in our laboratories, and better equip our students with the practical skills needed to meet the technical demands of employers in the industry and on an international level. We are committed to these improvements and will continue to monitor and assess the effectiveness of these measures to ensure that our laboratories meet the standards

11. Currently, the scientific literature body comprises mainly of articles published in university journals. However, in order to gain an international perspective, develop ideas about new research methods and fields, and adapt critical thinking, it is essential to adhere to international literature. → Page 23

**Responses:** Students can access various international literature subscribed to by Universitas Airlangga, as can be seen at the following link: [UNAIR e-library](#)



12. The experts highly recommend broadening the variety of applied teaching methods and offering respective didactical continuous-learning opportunities to the lecturers (see section 3.2), which also refers to the international standard of teaching methodology and content. →Page 23

**Response:** We accepted the recommendation and will apply it to all courses. Several courses have already implemented various learning methodologies, such as student-centered learning, problem-based learning (PBL)/ case-based learning (CBL), outcome-based education, collaborative learning, and cooperative learning. This will be further enhanced across all courses in the Master of Veterinary Agribusiness and Master of Veterinary Diseases and Public Health programs. Master of Veterinary Agribusiness implemented the CBL/PBL teaching method for example in Veterinary Agribusiness and Sustainability Sys-

tems (SDGs) 2 credits = 6 ECTS and the Digitalization of Veterinary Entrepreneurship (Internship): 3 credits= 9 ECTS. Master of Veterinary Diseases and Public Health implemented the CBL/PBL such as in emerging and re-emerging diseases.

13. The expert group also examined a selection of final theses and determined that they are of an appropriate academic level but are focused more on practical application than basic research. The experts acknowledge UNAIR's strong partnerships with industry, which have contributed significantly to developing industry-relevant knowledge. However, as the field is already well-established, the experts see the need for the academic programs being reviewed to increase their focus on basic research. -- Page 25

**Response:** Not all research conducted is on practical application; some are basic research, but funding is more directed toward applied research. Some research categories in the two master's programs are adjusted to market needs. The Ministry of Education and Culture's Technology Readiness Level (TRL) research classification includes basic research (TRL 1-3), applied research (TRL 4-6), and development research (TRL 7-9).

We appreciate the experts' observations and recommendations regarding the focus of our academic programs. Here are our responses to address these concerns:

1. **Diversity in Research Focus:** While a significant portion of our research is directed towards practical applications, we also conduct substantial basic research. However, funding trends have often favored applied research due to its immediate relevance to market needs.
2. **Research Classification:** Our research activities are categorized according to the Ministry of Education and Culture's Technology Readiness Level (TRL) classification, which is structured as follows:
  - **Basic Research** (TRL 1-3): This stage involves foundational scientific research aimed at generating new knowledge without a direct commercial application. For example, one of our master's theses focused on the **Morphological Characteristics of Plerocercoid Tapeworm *Spirometra spp* Through Morphometric Study of Various Snakes in the East Java Region,**" at a fundamental level.
  - **Applied Research** (TRL 4-6): This research stage aims to solve practical problems by applying scientific knowledge. For instance, lecturers and faculty members' research project titled example **"Impact Analysis of Foot and**



**"Mouth Disease Outbreak and Prediction on The Productivity and Profitability of Dairy Cattle Farms"** falls into this category.

- **Development Research (TRL 7-9):** This involves the development and refinement of products or processes to a level where they can be commercially viable. An example is a project on **Potential Superbooster for Milk Production and Milk Quality of FMD Affected Dairy Cows in Malang District.**
- 3. **Institutional Support and Strategy:** We are enhancing our support for basic research through targeted funding and resource allocation. Additionally, we are actively seeking partnerships and collaborations that provide opportunities for foundational scientific research.
- 4. **Quantitative Data and Examples:** Over the past five years, approximately [percentage]% of our master's theses have focused on basic research topics. This demonstrates our commitment to fostering a balanced research environment that supports both basic and applied research.

**14.** In this regard, the experts raise the question of whether the assessment is done based on fixed standards or in relation to the study cohort. The experts remain uncertain about this matter as the given answers partly contradict each other. In their understanding, however, grading should be done based on fixed criteria, but a cohort comparison serves to understand the students' needs to offer individual support. → Page 26

**Response:** The assessment is indeed carried out based on the fixed standards that apply at Airlangga University as stated in the master's education guidebook.

We appreciate the feedback and would like to clarify the assessment and grading standards applied in our programmes:

1. **Fixed Standards for Assessment:** The assessment of students is carried out based on the fixed standards outlined in the academic guidelines of Universitas Airlangga. These standards are consistently applied to ensure fairness and transparency in the evaluation process. Each course has predetermined criteria for grades A, AB, B, etc., as specified in our master's education guidebook.
2. **Retake Policy:** Students who do not achieve the passing grade are required to retake the course. Retaking a course involves not only retaking exams but also redoing assignments and participating in all necessary course activities to ensure comprehensive understanding and improvement.

3. **Statistical Overview:** Historically, there is no students failing and needing to retake courses. In most cases of course repetition is due to students' desire to improve their grades. For instance, students who receive an AB grade may choose to retake the course to strive for an A grade.

We are committed to continuously evaluating and improving our assessment methods and support systems. This includes regular reviews of our academic guidelines and incorporating feedback from students and faculty to ensure that our evaluation processes are fair and effective.

15. In this regard, the experts inquire about the research opportunities of the staff members. The lecturers affirm that their research time is sufficient for them, although they assess the share of their workload that goes to research to be only 10 to 20 percent. The experts assess this to be very low and recommend revising the distribution of the *tridharma* activities to give the academic staff more room for their own research. It appears that the high administrative burden that the lecturers have to bear is the most hindering factor. The administrative load could, for example, be reduced by hiring additional support staff for this purpose.

**Response:** There is no policy on hiring additional staff to support administrative work. We will consider that.

We appreciate the feedback and recognize the need to enhance research opportunities for our staff members. Here are the measures we are implementing:

1. **Research Hours Regulation:** According to our institutional policy, faculty members are allocated 10-20 hours per week specifically for research activities. This ensures that they have dedicated time to focus on their research endeavours.
2. **Faculty and Research Grants:** The Faculty of Veterinary Medicine (FVM) at Universitas Airlangga has a total of 83 lecturers. Out of these, 72 research have successfully obtained research grants for the last 3 years. Master of Veterinary Agribusiness lecturers who received grants from 12 research and for Master of Veterinary Disease and Public Health 26 research. This highlights our commitment to fostering a robust research culture within the faculty.
3. **Institutional Support for Research:** The FVM has institutional regulations that stipulate faculty members should spend 10-20 hours per week on research. This allocation is designed to ensure that our academic staff can engage in meaningful and productive research activities.

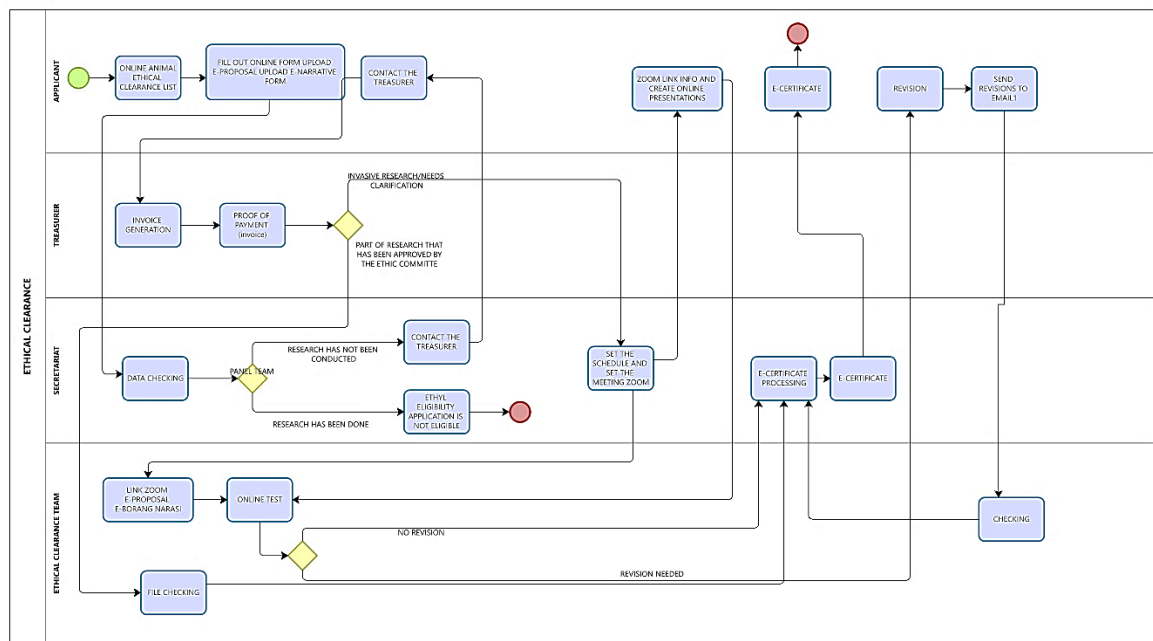
4. **Reduction of Administrative Burden:** We have implemented digitalization processes for various administrative tasks, such as lectures, exams, and other academic activities. This digital transformation has significantly reduced the administrative burden on our lecturers, allowing them to allocate more time to research.
5. **Hiring Additional Support Staff:** To further alleviate the administrative load, Vice Dean II is actively pursuing the recruitment of additional administrative staff according to **PP-UNAIR-MUN-02-01** in point 7.4 Planning, University Permanent Staff Admission regarding 7.4.2 Head of Work Unit/Dean can propose University permanent staff to the Rector through Vice Rector II by filling BO-UNAIR-MUN-02-01. This proposal has been submitted to the Human Resources Department of the University and the Vice Rector II for approval. This initiative aims to provide faculty members with the necessary support to focus more on their research activities.

By implementing these measures, we aim to enhance the research environment and provide our faculty members with the necessary support to excel in their research activities.

16. **Feedback:** As a critical matter in terms of research, the experts mention the apparent lack of an independent committee to supervise the faculty's animal studies in terms of animal welfare. Although there is such a committee, its members are part of the faculty staff and conduct animal studies in the labs themselves, which does not guarantee an independent perspective on the matter. As the topic of animal welfare has become a crucial issue also in the scientific context, the experts urge the university to redesign the supervisory board's structure. -- Page 28

**Response:**

Graduate student research that uses experimental animals always goes through an ethics commission through the SOP according to the following flowchart:



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The ethics commission consists of FKH UNAIR lecturers who already have a certificate of competence in ethical testing. The chairman of the ethics commission determines the examination team according to their expertise based on the proposed research topic. If a lecturer member of the ethics committee conducts research, the research is reviewed by another ethics committee member without involving the lecturer to avoid conflicts of interest.

17. However, content-wise in terms of fundamental (international) research in the academic fields, as well as didactical methods, the continuous learning offer is limited to non-existent. This relates to the previously mentioned room for improvement in terms of the course contents and teaching methodology. The experts stress the need for up-to-date teaching methodology and course content and therefore strongly recommend extending the offer and implementing a structured "teach-the-teacher" program in that regard. Examples of courses could be (international) peer lectures, didactical seminars, and IT courses. → Pages 28 – 29

**Response:** We appreciate the feedback and would like to highlight our ongoing efforts to enhance internationalization and update our teaching methodologies. Currently, we will have a double degree program in collaboration with the College of Veterinary Medicine and the Department of Tropical Agriculture and International Cooperation at NPUST. This

program aligns our curriculum, teaching methods, and research with international standards. Additionally, we are in the process of revising our curriculum to maximize international content in our courses.

We have already taken significant steps towards internationalization, such as inviting guest lecturers from abroad to teach specific courses. For instance, we have had international experts teach advanced veterinary medicine topics. We also integrate international literature, including articles from renowned journals and international case studies, into our coursework to provide a global perspective. Almost all courses in the master of veterinary agribusiness and veterinary diseases and public health use case studies from various countries and literature from international journals to ensure students receive a comprehensive and diverse education.

Furthermore, we are planning to schedule courses for lecturers, including international peer lectures, didactical seminars, and IT courses, as part of a structured "teach-the-teacher" program to ensure our teaching staff remains updated with the latest teaching methodologies and course content. The foreign students from our doctoral program have given chance to teach the master students.

- 18.** The practical work with diseased animals is crucial. Therefore, they visit different teaching and research laboratories as well as the university's own veterinary clinic.

The visited research and teaching laboratories do not comply with European safety standards due to outdated fire protection technology, missing procedural plans for emergencies, and missing periodic maintenance of safety-relevant research devices (centrifuges, safety cabinets). It is necessary to improve this situation, especially with regard to the maintenance of the equipment. Some of the newer machines will especially need regular maintenance to ensure that data collection remains accurate. This review is necessary to ensure the achievement of the intended learning objectives of the programs.

Besides these specificities, the experts generally state that the facilities and equipment are sufficient for ensuring the practical teaching components. However, the faculty must necessarily emphasize the maintenance, accessibility, and safety measures of its facilities. As examples, the experts note that many of the used devices were controlled and calibrated for the last time in 2021, which might lead to distorted measurements and damage the quality of experimental results, and therefore, the research's integrity. Also, safety measures like evacuation plans, fire extinguishers, first aid kits, and appropriate storage facilities for chemicals are partly missing or expired. Lastly, many laboratories are accessible only via staircases and elevators are missing, which prevents students and staff with

certain disabilities or limitations from using them. As a concluding advice regarding the laboratories, the experts recommend appointing or hiring at least one technical staff member to establish a structured plan and monitoring process for the maintenance, equipment, use, and safety of the lab facilities. → Page 31

**Response:** We appreciate the experts' detailed feedback and acknowledge the areas needing improvement. The faculty has already submitted a request for the renovation of lab facilities, and funding has been allocated for this purpose. Specifically, the Vice Dean II has committed to enhancing our laboratory facilities starting this year. We have allocated an average budget of IDR 129,237,000 per fiscal year for the maintenance and upgrade of laboratory equipment.

To address the safety concerns, we will prioritize updating fire protection technology, establishing procedural plans for emergencies, and ensuring periodic maintenance of all safety-relevant research devices. We understand the importance of maintaining newer machines to guarantee accurate data collection, and this will be a key focus of our efforts.

Furthermore, we will enhance accessibility by installing elevators and improving other facilities to accommodate students and staff with disabilities. To ensure consistent and effective maintenance and safety of our labs, we plan to appoint or hire at least one technical staff member responsible for establishing a structured maintenance and safety monitoring process.

We are committed to implementing all suggestions from the expert team and making necessary improvements to our laboratory and clinic facilities to meet the required standards and support the intended learning objectives of our programs.

19. In summary, the expert group judges the available funds, the technical equipment, and the infrastructure (laboratories, library, seminar rooms, etc.) to comply – besides the mentioned restrictions – with the requirements for adequately sustaining the degree programs. -- Page 32

**Response:** Thank you for your appreciation, understanding, and support of our conditions and efforts.

20. In addition, the students receive all relevant course material in the language of the degree program at the beginning of each semester. However, the university must make sure that the English websites are always updated with the same information as the Indonesian websites. This concerns especially the information regarding the

MA-VDPH program, whose name was changed recently. Notably, not all the names and titles have been adapted yet in all documents, which must necessarily be reviewed., → Page 33

**Response:**

Thanks to the valuable input, the University and all faculties in Universitas Airlangga always update the website regularly in the form of bilingual websites (<https://unair.ac.id/en/> and <https://unair.ac.id/> ).

- 21.** The students confirm that there are various surveys and other channels of feedback regarding the programs and individual courses. The completion of the course surveys is mandatory in the sense that students cannot access their grades and materials on the cyber campus without having completed the evaluation forms. As their relationship is very close with the academic staff, they also discuss many of their challenges and feedback in informal ways. However, the students state that they did not receive any information about the measures that were taken in response to their feedback. As this is crucial to the awareness of the students for quality assurance and the motivation to further strive for the program's quality enhancement, the experts require the university to close the formal feedback cycle by providing students with information about their feedback and the measures taken in response. → Page 35

**Response:** All feedback results and follow-up actions are uploaded on the website according to each program. It is possible that students are not aware of this, so further socialization will be conducted. There is already a menu on the website to view evaluation results that can be access through this link:

<https://fkh.unair.ac.id/download/kuisiонер-s2-ipkrmv/>

<https://fkh.unair.ac.id/download/kuisiонер-s2-agribisnis-veteriner/>

**Additional Documents:**

- statistics of application numbers (before pre-sorting)
- Results of tracer studies and evaluation results

**Response:** Tracer Study Master of Agribusiness Veterinary

The results of the tracer study showed that 100% of S2 Agribusiness Veterinary alumni provided a response. The data obtained shows that 91.67% (11 out of 12) have worked, while 8.33% (1 out of 12) alumni have not been able to work. The fields of work of alumni include veterinary practitioners, managers, entrepreneurs, which are in accordance with the learning outcomes and study program profiles, namely Planner, Innovator; Manager; Entrepreneur and Researcher.

Field of Work

- Entrepreneur / Self-employed (3 out of 12) = 25% - Entrepreneur
- Working / used to work (7 out of 12) = 58.33% - Manager, Innovator, Planner
- Continuing S3 education (1 out of 12) = 8.33% - Researcher
- Not yet possible to work (1 out of 12) = 8.33%

Tracer Study Master of Veterinary Diseases and Veterinary Public Health Faculty of Veterinary Medicine 2022 -2024

Tracer study has been conducted regularly every year. We attach an example of the results of the 2022-2024 tracer study. From the questionnaire distributed, 93% of respondents gave feedback that currently 82,5% of alumni have worked full-time, 3.5% as self-employed, 3.5% have not worked and 3.5% are unable to work because they are housewives.

From 93% of respondents, 67% of alumni obtained jobs less than 3 months after graduating, while the others already had jobs before college. These alumni work in country and abroad (Malaysia and Australia) as Quality Assurance Staff, Researchers, Veterinary Practitioners, Quarantine Veterinarians, Government Veterinarians, QC Supervisors, Lecturers.

Based on the result of the tracer study, alumni have worked according to the graduate profile that has been determined by the study program according to their competencies.

The follow-up actions that need to be taken are:

1. Increasing cooperation with domestic and foreign agencies
2. Expanding networking to collaborate in absorbing study program graduates
3. Providing training for graduates to improve strategies in getting jobs



## F Summary: Expert recommendations (19.08.2024)

Taking into account the additional information and the comments given by UNAIR, the experts summarize their analysis and **final assessment** for the award of the seals as follows:

| Degree Programme                                   | ASIIN-seal                     | Subject-specific label | Maximum duration of accreditation |
|--|--------------------------------|------------------------|-----------------------------------|
| Ma Veterinary Agribusiness                         | With requirements for one year | -                      | 30.09.2030                        |
| Ma Veterinary Disease and Veterinary Public Health | With requirements for one year | -                      | 30.09.2030                        |

### Requirements

#### For all programmes

- A 1. (ASIIN 1.4) UNAIR shall not exclude students from admission because of colour-blindness, deafness or any other disability.
- A 2. (ASIIN 3.3) A structured budget plan and maintenance plan according to the manufacturers' instructions has to be developed to clarify responsibilities for ensuring the renewal, maintenance, operational capacity and safety of the lab facilities and equipment.
- A 3. (ASIIN 3.3) It has to be ensured that also disabled students have access to all teaching and learning facilities, including all labs.

#### For the Master's Degree in Veterinary Disease and Veterinary Public Health

- A 4. (ASIIN 1.2) The programme's name has to be specified to reflect its focus on infectious diseases.
- A 5. (ASIIN 1.3) The curriculum has to be adapted to accordingly reflect the programme's name by including the topics of animal welfare, food hygiene, food technology, food safety, international food law, and one health.

## **Recommendations**

### **For the Master's Degree in Veterinary Agribusiness**

- E 1. (ASIIN 1.2) It is recommended to change the awarded degree title into M.Sc to more accurately reflect the programme's content.

## G Comment of the Technical Committees

### Technical Committee 14 – Medicine (09.09.2024)

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

The Technical Committee supports the three general conditions proposed by the expert group, which relate to the improvement of safety standards and equipment in the laboratories and the cancellation of discriminatory admission requirements. In addition, two conditions regarding the title of the degree programme and the curriculum of the Master's degree programme in Veterinary Disease and Veterinary Public Health were imposed.

The Technical Committee 14 – Medicine recommends the award of the seals as follows:

| Degree Programme                                   | ASIIN-seal                     | Subject-specific label | Maximum duration of accreditation |
|--|--------------------------------|------------------------|-----------------------------------|
| Ma Veterinary Agribusiness                         | With requirements for one year | -                      | 30.09.2030                        |
| Ma Veterinary Disease and Veterinary Public Health | With requirements for one year | -                      | 30.09.2030                        |

**Vote:** unanimous

### Requirements

#### For all programmes

- A 1. (ASIIN 1.4) UNAIR shall not exclude students from admission because of colour-blindness, deafness or any other disability.
- A 2. (ASIIN 3.3) A structured budget plan and maintenance plan according to the manufacturers' instructions has to be developed to clarify responsibilities for ensuring the renewal, maintenance, operational capacity and safety of the lab facilities and equipment.
- A 3. (ASIIN 3.3) It has to be ensured that also disabled students have access to all teaching and learning facilities, including all labs.

#### For the Master's Degree in Veterinary Disease and Veterinary Public Health

- A 4. (ASIIN 1.2) The programme's name has to be specified to reflect its focus on infectious diseases.
- A 5. (ASIIN 1.3) The curriculum has to be adapted to accordingly reflect the programme's name by including the topics of animal welfare, food hygiene, food technology, food safety, international food law, and one health.

## **Recommendations**

### **For the Master's Degree in Veterinary Agribusiness**

- E 1. (ASIIN 1.2) It is recommended to change the awarded degree title into M.Sc to more accurately reflect the programme's content.

### **Technical Committee 08 – Agriculture, Forestry and Food Science (16.09.2024)**

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

The Technical Committee 08 discusses the procedure and comes to the conclusion that several requirements are particularly harsh. For one, the accessibility of laboratories to students with disabilities, while undoubtedly a condition worth pursuing, is an international systemic issue that cannot be solved within the scope of a programme accreditation. The university has presented proposals for solutions (i.e., the construction of an elevator) which proves the understanding of the issue and the value its solving holds. Furthermore, another two accreditation procedures within the meeting of the TC08 deal with similar problems, however in these the lack of access for students with mobility issues is only a recommendation. This is why the TC08 suggests downgrading this requirement to a recommendation.

The correspondence of the name and the curriculum of the Ma Veterinary Disease and Veterinary Public Health is the reason for requirements A4 and A5, imposed by the Technical Committee 14. The members of the Committee are of the opinion that the inconsistencies between the name and the curriculum are not as grave as they are made out to be. The Committee thus suggests to down-grade these two requirements to a recommendation.

The Technical Committee 08 – Agriculture, Forestry and Food Science recommends the award of the seals as follows:

| Degree Programme                                   | ASIIN-seal                     | Subject-specific label | Maximum duration of accreditation |
|--|--------------------------------|------------------------|-----------------------------------|
| Ma Veterinary Agribusiness                         | With requirements for one year | -                      | 30.09.2030                        |
| Ma Veterinary Disease and Veterinary Public Health | With requirements for one year | -                      | 30.09.2030                        |

**Vote:** unanimous

## Requirements

### For all programmes

- A 1. (ASIIN 1.4) UNAIR shall not exclude students from admission because of colour-blindness, deafness or any other disability.
- A 2. (ASIIN 3.3) A structured budget plan and maintenance plan according to the manufacturers' instructions has to be developed to clarify responsibilities for ensuring the renewal, maintenance, operational capacity and safety of the lab facilities and equipment.

## Recommendations

### For all programmes

- E 1. (ASIIN 3.3) It has to be ensured that also disabled students have access to all teaching and learning facilities, including all labs.

### For the Master's Degree in Veterinary Agribusiness

- E 2. (ASIIN 1.2) It is recommended to change the awarded degree title into M.Sc to more accurately reflect the programme's content.

### For the Master's Degree in Veterinary Disease and Veterinary Public Health

- E 3. (ASIIN 1.2) The programme's name has to be specified to reflect its focus on infectious diseases.
- E 4. (ASIIN 1.3) The curriculum has to be adapted to accordingly reflect the programme's name by including the topics of animal welfare, food hygiene, food technology, food safety, international food law, and one health.

## H Decision of the Accreditation Commission (24.09.2024)

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

The Accreditation Commission intensely discusses the procedure and the changes of requirements and recommendations proposed by the TC 08. The Accreditation Commission honours the commitment of UNAIR towards inclusivity and accessibility of the facilities which includes, among others, the construction of ramps and elevators. In this regard, A3 is reformulated to only provide a concept for the meantime until these measures will be realized. Contrasting both TCs, the Accreditation Commission sees a crucial deficiency in the degree title of the Veterinary Agribusiness programme. As the programme has a strong focus on business and regulatory matters and most of the students also have a background in these fields, the M.Vet title that implies the qualification as practicing Veterinary Doctor is considered misleading and needs to be changed. Regarding the curriculum design of the Veterinary Disease and Veterinary Public Health programme, the Accreditation Commission agrees with the TC 14 on the importance of the mentioned contents for the programme, but decides on a slightly different wording. With respect to the former requirement A4, the Accreditation Commission decides to downgrade it to a recommendation, and, instead of prolonging the title to “infectious diseases” suggests shortening the name to “Veterinary Public Health”. As the public health evidently deals with infectious diseases, the first part the current title is considered redundant.

The Accreditation Commission decides to award the following seals:

| Degree Programme                                   | ASIIN-seal                     | Subject-specific label | Maximum duration of accreditation |
|--|--------------------------------|------------------------|-----------------------------------|
| Ma Veterinary Agribusiness                         | With requirements for one year | -                      | 30.09.2030                        |
| Ma Veterinary Disease and Veterinary Public Health | With requirements for one year | -                      | 30.09.2030                        |

**Vote:** unanimous

### Requirements

**For all programmes**

- A 1. (ASIIN 1.4) UNAIR shall not exclude students from admission because of colour-blindness, deafness or any other disability.
- A 2. (ASIIN 3.3) A structured budget plan and maintenance plan according to the manufacturers' instructions has to be developed to clarify responsibilities for ensuring the renewal, maintenance, operational capacity and safety of the lab facilities and equipment.
- A 3. (ASIIN 3.3) The university has to present a concept how teaching and learning facilities, including laboratories, can be made accessible for students with disabilities until structural measures come into effect.

#### **For the Master's Degree in Veterinary Agribusiness**

- A 4. (ASIIN 1.2) The awarded degree title needs to be changed to accordingly reflect the qualification of the graduates.

#### **For the Master's Degree in Veterinary Disease and Veterinary Public Health**

- A 5. (ASIIN 1.3) (Re-)design the programme so that students have more opportunities to acquire competences and knowledge of the topics animal welfare, food hygiene, food technology, food safety, international food law, and one health.

### **Recommendations**

#### **For the Master's Degree in Veterinary Disease and Veterinary Public Health**

- E 1. (ASIIN 1.2) It is recommended to avoid unnecessary confusion of the two-part programme title by renaming it to "Veterinary Public Health".



# I Fulfilment of Requirements

## Analysis of the Experts and the Technical Committee (16.09.2025)

### Requirements

- A 1. (ASIIN 1.4) UNAIR shall not exclude students from admission because of colour-blindness, deafness or any other disability.

| Initial Treatment |   |
|-------------------|---|
| experts           | Fulfilled<br>Vote: unanimous<br>Justification: The statement of UNAIR addressing this topic is unambiguous and clearly shows that colour blindness, deafness, or other disabilities have no influence on the admission process. |
| TC 14             | Fulfilled<br>Vote: unanimous<br>Justification: The TC follows the recommendation of the experts.  |

- A 2. (ASIIN 3.3) A structured budget plan and maintenance plan according to the manufacturers' instructions has to be developed to clarify responsibilities for ensuring the renewal, maintenance, operational capacity and safety of the lab facilities and equipment.

| Initial Treatment |  |
|-------------------|--|
| experts           | Fulfilled<br>Vote: unanimous<br>Justification: A specific budget for the renewal, ongoing maintenance, and operational safety of all laboratory infrastructure has been allocated within the 2025 budget plan. |
| TC 14             | Fulfilled<br>Vote: unanimous<br>Justification: The TC follows the recommendation of the experts.   |

- A 3. (ASIIN 3.3) The university has to present a concept how teaching and learning facilities, including laboratories, can be made accessible for students with disabilities until structural measures come into effect.

| Initial Treatment |           |
|-------------------|-----------|
| experts           | Fulfilled |

|       |   |
|-------|---|
|       | Vote: unanimous<br>Justification: UNAIR has implemented adequate measures to ensure that students with disabilities have full access to all teaching and learning facilities, including laboratories. |
| TC 14 | Fulfilled<br>Vote: unanimous<br>Justification: The TC follows the recommendation of the experts.  |

#### **For Ma Veterinary Agribusiness**

- A 4. (ASIIN 1.2) The awarded degree title needs to be changed to accordingly reflect the qualification of the graduates.

| <b>Initial Treatment</b> |  |
|--------------------------|--|
| experts                  | Fulfilled<br>Vote: unanimous<br>Justification: The required degree title change from M.Vet to M.Sc was approved. |
| TC 14                    | Fulfilled<br>Vote: unanimous<br>Justification: The TC follows the recommendation of the experts.                 |

#### **For the Ma Veterinary Disease and Veterinary Public Health**

- A 5. (ASIIN 1.3) (Re-)design the programme so that students have more opportunities to acquire competences and knowledge of the topics animal welfare, food hygiene, food technology, food safety, international food law, and one health.

| <b>Initial Treatment</b> |  |
|--------------------------|--|
| experts                  | Fulfilled<br>Vote: per majority<br>Justification: The new curriculum is suitable for teaching the missing content. |
| TC 14                    | Fulfilled<br>Vote: unanimous<br>Justification: The TC follows the recommendation of the experts.                   |

## Decision of the Accreditation Commission (26.09.2025)

| Degree Programme                                   | ASIIN Seal                 | Maximum duration of accreditation |
|--|----------------------------|-----------------------------------|
| Ma Veterinary Agribusiness                         | All requirements fulfilled | 30.09.2030                        |
| Ma Veterinary Disease and Veterinary Public Health | All requirements fulfilled | 30.09.2030                        |

## Appendix: Programme Learning Outcomes and Curricula

According to the Self-Assessment Report, the following **graduate profile, programme goals, and learning outcomes (intended qualifications profile)** shall be achieved by the Master's degree programme Veterinary Agribusiness:

### Graduate profile:

#### **1. Planner in the field of Veterinary Agribusiness**

The graduates of Master Program in Veterinary Agribusiness are expected to be able to design activities, actions, steps, and innovations in the development of animal husbandry and veterinary medicine.

#### **2. Innovator in the field of Veterinary Agribusiness**

The graduates of Master Program in Veterinary Agribusiness are expected to become innovators of renewal by responding to developments in science and technology and the challenges of the times, being curious, and open to criticism, sharpening analytical skills, developing innovation, building teamwork, and empowering communities.

#### **3. Manager in the field of Veterinary Agribusiness**

The graduates of Master Program in Veterinary Agribusiness are expected to be able to lead, direct, and be responsible for managing the industrial, livestock, and veterinary fields according to the field of veterinary agribusiness.

#### **4. Entrepreneur in the field of Veterinary Agribusiness**

The graduates of Master Program in Veterinary Agribusiness are expected to be able to create, manage, and develop entrepreneurship in the field of animal husbandry and veterinary medicine.

#### **5. Researcher in the field of Veterinary Agribusiness**

The graduates of Master Program in Veterinary Agribusiness are expected to be able to identify, analyze, and solve problems related to the field of veterinary agribusiness through an inter- or multidisciplinary approach.

**Learning outcomes (LO):**

| <b>A. Knowledge</b>       |   |
|---------------------------|---|
| <b>K1</b>                 | Be able to manage and develop a business related to the field of veterinary agribusiness that is beneficial to society and science and be able to analyze whether or not a business related to the field of veterinary agribusiness is based on religious ethics and morals (Planner, Manager, Entrepreneur). |
| <b>K2</b>                 | Be able to implement and develop the scope and elements of the veterinary agribusiness system, analyze and evaluate all changes in genetic aspects, environmental management related to disease, and production with a responsible attitude towards work in the field of expertise (Innovator, Re-searcher).  |
| <b>K3</b>                 | Be able to implement, develop, and analyze policies—both national, regional, and international—related to agribusiness to improve the quality of social, nation, and state life as well as the advancement of civilization based on Pancasila (Planner, Innovator, Manager).                                  |
| <b>K4</b>                 | Be able to master and implement commodity animal business management, animal hospital management, commodity animal feed management, and applied technology based on molecular biology and cellular biology (Manager, Entrepreneur).   |
| <b>B. Specific Skills</b> |   |
| <b>SS1</b>                | Be able to implement feed management and commodity animal business (Manager, Entrepreneur).   |
| <b>SS2</b>                | Be able to develop the ability to analyze management components with statistical methods in the field of veterinary agribusiness (Researcher).  |
| <b>SS3</b>                | Be able to analyze data costs as well as information accounting and management for specific decision-making (Planner, Manager, Entrepreneur).   |
| <b>SS4</b>                | Be able to develop science and technology, entrepreneurship, and management production processes in the field of veterinary agribusiness and building cooperation in teamwork (Researcher, Manager, Entrepreneur).  |
| <b>SS5</b>                | Be able to develop entrepreneurial skills and management production processes in the field of veterinary agribusiness (Manager, Entrepreneur).  |

The following **curriculum** is presented:

| No.                                       | Courses |   | Lectures |      |
|---|---------|---|----------|------|
|   | Code    | Name of the Courses                                 | Credit   | ECTS |
| (1)                                       | (2)     | (3)   | (4)      | (5)  |
| <b>1<sup>st</sup> Semester</b>            |         |   |          |      |
| 1   | BIG603  | Veterinary Genetic Engineering                      | 2        | 6    |
| 2   | MNG603  | Veterinary Environmental Management                 | 2        | 6    |
| 3   | MNG606  | Veterinary Agribusiness Systems                     | 2        | 6    |
| 4   | PHV601  | Philosophy of Science                               | 2        | 6    |
| 5   | PNV697  | Research Methodology                                | 2        | 6    |
| 6   | MNW601  | Veterinary Entrepreneurship                         | 2        | 6    |
| <b>Sub amount credits of 1st Semester</b> |         |   | 12       | 36   |
| <b>2<sup>nd</sup> Semester</b>            |         |   |          |      |
| 7   | KHR601  | Veterinary Commodity Business Analysis and Planning | 2        | 6    |
| 8   | MNG604  | Veterinary Commodity Business Management            | 2        | 6    |
| 9   | MNG605  | Veterinary Commodity Production Process Management  | 2        | 6    |
| 10  | MNH603  | Commodity Animal Feed Management                    | 2        | 6    |
| 11  | MNS605  | Biosecurity Management and Animal Disease Control   | 2        | 6    |
| 12  | MNA601  | Accounting Management                               | 2        | 6    |
| 13  | MNP606  | Veterinary Marketing Management                     | 2        | 6    |
| <b>Sub amount credits of 2nd Semester</b> |         |   | 14       | 42   |
| <b>3<sup>rd</sup> Semester</b>            |         |   |          |      |
| 14  | PNV698  | Thesis Proposal                                     | 2        | 6    |
| 15  | PNV692  | Thesis Results Seminar                              | 2        | 6    |
| 16  |         | Elective Course 1                                   | 2        | 6    |
| 17  |         | Elective Course 2                                   | 2        | 6    |
| <b>Sub amount credits of 3rd Semester</b> |         |   | 8        | 24   |
| <b>4<sup>th</sup> Semester</b>            |         |   |          |      |
| 18  | PNV699  | Thesis  | 4        | 12   |
| 19  | PNV693  | Publication   | 2        | 6    |
| <b>Sub amount credits of 4th Semester</b> |         |   | 6        | 18   |
| <b>Total Study Load of Study Programs</b> |         |   | 40       | 120  |

List of **elective courses**:

| No. | Teaching Subjects: Lectures |   | Study Load<br>(credits/ECTS) |
|-----|-----------------------------|---|------------------------------|
|     | Code                        | Code                                      |                              |
| 1   | BIS615                      | Applied Biomolecular                      | 2/6                          |
| 2   | BIS601                      | Cell Biology                              | 2/6                          |
| 3   | KHC601                      | Agribusiness Policy Analysis              | 2/6                          |
| 4   | MNS642                      | Animal Hospital Management                | 2/6                          |
| 5   | MAS621                      | Agribusiness Applied Statistical Analysis | 2/6                          |

According to the Self-Assessment Report, the following **graduate profile, programme goals, and learning outcomes (intended qualifications profile)** shall be achieved by the Master's degree programme Veterinary Disease and Veterinary Public Health:

**Graduate profile:**

1. **Planer**, able to design animal disease control, safety and health of food of animal origin for the welfare of society.
2. **Decision maker**, able to become decision makers and policy makers in disease control and veterinary public health.
3. **Manager**, able to manage work related to animal diseases, food safety and health of animal origin for the welfare of society.
4. **Consultant**, able to become a consultant for animal health or food health and safety of animal origin.
5. **Researcher** able to manage research for animal disease control and maintain animal health as well as guarantee the safety of food of animal origin and disseminate research results to the public.



**Learning Outcomes (LO):**

| Knowledge       |   |
|-----------------|---|
| K1              | Able to design disease control research in accordance with the correct research principles based on religion, morals and ethics   |
| K2              | Choose the appropriate Veterinary Epidemiology technique in the animal health supervision program that properly supports public health and the Veterinary Society to improve the quality of life of society, nation, state, and advancement of civilization based on Pancasila  |
| K3              | Choose the appropriate Test Laboratory for the development of disease control, food safety and ingredients of animal origin correctly and be responsible for work in their field of expertise independently   |
| K4              | Capable to relate the biological properties of cells, both cellular and molecular, and their applications with efforts to control animal diseases and food safety of animal origin correctly  |
| K5              | Capable to develop knowledge that refers to ethics, reality, logic, cooperation and has social sensitivity and concern for society and the environment  |
| Specific Skills |   |
| SS1             | Capable to connect Veterinary Public Health Sciences with efforts to control animal diseases, animal health and community welfare correctly and realize excellence based on religious morality (excellence with morality)   |
| SS2             | Capable to analyze various kinds of animal/livestock diseases (infectious, non-infectious, zoonotic and strategic) in an effort to control animal diseases correctly  |
| SS3             | Capable to analyze agents that spoil food of animal origin in an effort to properly maintain food safety of animal origin   |
| SS4             | Linking the concept of immunology with animal health as a foundation in planning to solve animal health problems properly   |
| SS5             | Able to manage research and development of animal disease control and animal health that benefit society and science in accordance with true research principles starting from designing research, writing proposals, presenting results, defending theses and writing articles and publishing them in accredited National or International Journals International Reputable Journal Seminar or Proceedings |

The following curriculum is presented:

| No.                                | Courses |                                    | Lectures |      |
|------------------------------------|---------|------------------------------------|----------|------|
|                                    | Code    | Name of the Courses                | Credit   | ECTS |
| (1)                                | (2)     | (3)                                | (4)      | (5)  |
| <b>1<sup>st</sup> Semester</b>     |         |                                    |          |      |
| 1                                  | PNV697  | Research Methodology               | 2        | 6    |
| 2                                  | PHV601  | Philosophy of Science              | 2        | 6    |
| 3                                  | BIS601  | Cell Biology                       | 2        | 6    |
| 4                                  | KHD603  | Strategic Veterinary Disease       | 2        | 6    |
| 5                                  | KHD610  | Advanced Veterinary Epidemiology   | 2        | 6    |
| Sub amount credits of 1st Semester |         |                                    | 10       | 30   |
| <b>2<sup>nd</sup> Semester</b>     |         |                                    |          |      |
| 6                                  | BIM608  | Advanced Microbiology              | 2        | 6    |
| 7                                  | BIM609  | Advanced Parasitology              | 2        | 6    |
| 8                                  | KMV601  | Veterinary Public Health Science   | 2        | 6    |
| 9                                  | BII603  | Advanced Immunology                | 2        | 6    |
| 10                                 | BIM612  | Food Microbiology of Animal Origin | 2        | 6    |
| 11                                 | KHD601  | Laboratory Technique               | 2        | 6    |
| Sub amount credits of 2nd Semester |         |                                    | 12       | 36   |
| <b>3<sup>rd</sup> Semester</b>     |         |                                    |          |      |
| 12                                 | PNV698  | Research Proposal Seminar          | 2        | 6    |
| 13-16                              |         | Electives (4 Subjects @ 2 credits) | 8        | 24   |
| Sub amount credits of 3rd Semester |         |                                    | 10       | 30   |
| <b>4<sup>th</sup> Semester</b>     |         |                                    |          |      |
| 17                                 | PNV692  | Final Research Seminar             | 2        | 6    |
| 18                                 | PNV693  | Publication                        | 2        | 6    |
| 19                                 | PNV699  | Thesis                             | 4        | 12   |
| Sub amount credits of 4th Semester |         |                                    | 8        | 24   |
| Total Study Load of Study Programs |         |                                    | 40       | 120  |

List of **elective courses**:

| No. | Courses |   | Lectures |      |
|-----|---------|---|----------|------|
|     | Code    | Name of the Courses   | Credits  | ECTS |
| 1   | BIM613  | Environmental Microbiology and Parasitology                   | 2        | 6    |
| 2   | BIS605  | Biomolecular Microbes and Parasites                           | 2        | 6    |
| 3   | KHD604  | Infectious Diseases in Fish and Aquatic Animals               | 2        | 6    |
| 4   | KHK601  | Emerging-reemerging zoonoses                                  | 2        | 6    |
| 5   | KHD609  | Diseases of Wildlife  | 2        | 6    |
| 6   | KHU601  | Pathobiology  | 2        | 6    |
| 7   | KHD605  | Infectious Diseases in Poultry                                | 2        | 6    |
| 8   | BIS615  | Applied Biomolecular  | 2        | 6    |
| 9   | NUV602  | Health of Food of Animal Origin and Material of Animal Origin | 2        | 6    |
| 10  | NUV603  | Food Bio-preservation   | 2        | 6    |