ASIIN Seal

Accreditation Report

Bachelor's Degree Programmes
Animal Science
Veterinary Technology
Marine Science and Fisheries

Provided by
Sultan Qaboos University, Sultanate of Oman

Version: 09.04.2024

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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 [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Bachelor of Science in Animal Science	Bachelor of Science in Animal Science	ASIIN-Seal	-	08
Bachelor of Science in Veterinary Technology	Bachelor of Science in Veterinary Technology	ASIIN-Seal	-	08
Bachelor of Science in Marine Science and Fisheries	Bachelor of Science in Marine Science and Fisheries	ASIIN-Seal	-	08

Date of the contract: 02.06.2019 **Submission of the final version of the self-assessment report:** 18.01.2022 **Date of the onsite visit:** 24.-25.10.2022	
Peer panel: • Prof. Dr. Matthias Gauly, Free University of Bozen-Bolzano • Prof. Dr. Harry Palm, University of Rostock • Prof. Dr. Werner Manz, University of Koblenz Landau • Mag. med. vet. Christian Gruber, veted-consulting • Meran Alwaked, student at Jordan University of Science and Technology	
Representative of the ASIIN headquarter: Daniel Seegers	

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[1] ASIIN Seal for degree programmes;

[2] TC: 08 - Agriculture, Forestry, Food Sciences and Landscape Architecture

Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of 10.05.2015 ASIIN General Criteria, as of 10, 2015 Subject-Specific Criteria of Technical Committee 08 – Agriculture, Forestry, Food Sciences and Landscape Architecture as of 27.03.2015	

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Animal Science	Bachelor of Science (B.Sc.)		Level 6	Full time	No	8 Semester	125 CrH.	Fall of every year, since 2006
Veterinary Technology	Bachelor of Science (B.Sc.)		Level 6	Full time	No	8 Semester	125 CrH.	Fall of every year, since 2006
Marine Science and Fisheries	Bachelor of Science (B.Sc.)		Level 6	Full time	No	8 Semester	125 CrH.	Fall of every year, since 2006

For the Bachelor's programme <u>Animal Science</u> the institution has presented the following profile in the self-assessment report:

"The vision of the Department of Animal and Veterinary Sciences at SultanQaboos University is to be a leader in teaching and research in those disciplines of veterinary and animal sciences pertaining to the health, performance and welfare of domestic animals in the Sultanate of Oman."

The programme objectives are to: "

- Provide graduates with a superior education combined with the technical skills they need to succeed as Animal Scientists.
- Enable student to develop critical thinking, in-depth knowledge and technical skills needed for professional success.
- Produce graduates with practical work experience who have the ability to engage in life-long learning and professional development.
- Encourage students to develop efficient oral and written communication skills

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[3] EQF = The European Qualifications Framework for lifelong learning

that allows them to work effectively in teams."

For the Bachelor's programme <u>Veterinary Technology</u> the institution has presented the following profile in the self-assessment report:

"The vision of the Department of Animal and Veterinary Sciences at SultanQaboos University is to be a leader in teaching and research in those disciplines of veterinary and animal sciences pertaining to the health, performance and welfare of domestic animals in the Sultanate of Oman."

The programme objectives are to: "

- Provide graduates with a superior education combined with the technical skills they need to succeed as veterinary technologists.
- Enable students to develop critical thinking, in-depth knowledge and technical skills needed for professional success.
- Produce graduates with practical work experience who have the ability to engage in life-long learning and contentious professional development.
- Encourage students to develop efficient oral and written communication skills that allow them to work effectively in teams."

For the Bachelor's programme <u>Marine Science and Fisheries</u> the institution has presented the following profile in the self-assessment report:

"Pedagogical goals are long term goals that are realized mostly after graduation, during the first few years of employment.

The pedagogical goals of the program are to: "

- Enable students to maintain and acquire up-to-date knowledge and skills in at least one of the many specialization areas of marine science and fisheries.
- Ensure that our graduates have the skill sets necessary to apply the principles of scientific enquiry to problem solving with respects to the sustainable exploitation and conservation of the marine environments and within the specific national and international societal contexts.
- Provide a learning environment conducive to personal continuous growth while gaining practical work experience
- Encourage students to develop efficient oral and written communication skills that allows them to work effectively alone and in teams."

C Peer Report for the ASIIN Seal

1. The Degree Programme: Concept, content & implementation

> **Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)**

Evidence:

- Oman National Qualification Framework
- Module Handbook for all degree programmes
- Objective-Module Matrixes for all degree programmes
- Self-Assessment Report
- Website
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The peers refer to the Subject-Specific Criteria (SSC) of the Technical Committee Agriculture, Food Sciences and Landscape Architecture (TC 08) as a basis for judging whether the intended learning outcomes of the Bachelor's degree programme Animal Science, the Bachelor's degree programme Veterinary Technology and the Bachelor's degree programme Marine Science and Fisheries, as defined by SQU, correspond with the competences as outlined by the SSC. They come to the following conclusion:

The auditors acknowledge that the objectives of the Bachelor programmes are clearly and plausibly described and defined, matching the qualification requirements and learning outcomes for each of the three Bachelor programmes. They observe that students and teaching staff are duly informed about the study programmes. The latest degree and study plans for are all programmes available on the website.

The qualification objectives of the Animal Science programme (AS) should ensure that graduates are able to contribute to sustainable animal production practices that ensure animal health and well-being and demonstrate knowledge of animal husbandry, and animal health and disease control in a national and international context. Graduates shall also develop

soft skills such as critical thinking and problem-solving skills and the ability to work in teams, while keeping expertise up to date. They are supposed to perform professional duties in government organizations, private companies, and research-teaching units in the Sultanate of Oman.

The qualification objectives of the Veterinary Technology programme (VT) should assure that graduates are able to contribute to sustainable animal production practices that ensures animal health and well-being, and demonstrate knowledge of preclinical veterinary sciences, and interpretation of routine clinical and radiographic procedures. Graduates will mostly be employed as veterinary technologists in government organizations or private companies in the field of animal health care and should therefore have the ability to work in teams and to keep their expertise up to date.

The qualification objectives of the Marine Science and Fisheries programme (MASF) should ensure that graduates are able to engage in sustainable agriculture and food systems, particularly in their relationship to fisheries and aquaculture. Therefore, graduates must be able to demonstrate a sound knowledge in the areas of marine science, aquaculture and fisheries and an understanding of the business elements associated with fisheries, aquaculture and sustainable use of natural marine sources. In addition to these 'hard skills', graduates should also develop 'soft skills' such as teamwork, critical thinking, lifelong learning, and reflection on ethical or social consequences of their profession.

While the learning outcomes per programme are defined clearly and match the qualification requirements, the auditors have problems distinguishing between the VT and the AS programmes. During the discussions with the industry representatives, they learn that employers share similar experiences and are not sure what to expect from a veterinary technician compared to an animal scientist or a Doctor of Veterinary Medicine (DVM). Although SQU pays close attention to the feedback of its stakeholders and plans to introduce a Doctor of Veterinary Medicine programme in response, the peers point out that this reaction does not solve the problem of the lack of understanding where veterinary technicians can be employed and what they are capable of, in terms of special skills unique to the Veterinary Technology Bachelor and therefore a reason for studying and/or hiring.

Stakeholders of the other two programmes share similar experiences and have problems determining what exactly to expect from graduates of the programmes. One main aspect the stakeholders report to be missing in all programmes is practical experience for students. The peers recommend implementing an advisory board for the three study programmes on the department level to sharpen the profile of the VT programme and to identify how the practical experience can be improved in all programmes according to the needs of the employers. An advisory board could be useful to institutionalize external input and

act as a voice for professional bodies. This in turn would benefit the employability of the students and the competitiveness of the programmes and would contribute to a mutual understanding of the programmes and their stakeholders. Therefore, the peers support the already existing plan to establish advisory boards on the college level.

The auditors point out that solid structures to regularly renew the study objectives are in place, ensured through regular evaluations and quality assurance procedures and feedback loops. Apart from the relevant internal actors (research and teaching staff, students), external stakeholders such as industry and public authority representatives are actively engaged in the development of the programme objectives. It must be assured that the recommendations find a way into the regular study programs. These feedback loops could be institutionalised in order to reach a wider audience. Alumni surveys are regularly conducted and provide feedback also from graduates.

The auditors acknowledge that the objectives and intended learning outcomes of the three degree programmes under review are reasonable and well founded, with the exceptions mentioned. Learning outcomes are viable and meet the ASIIN subject-specific requirements.

During the visit the auditors request information about the employability chances and graduates' acceptance on the labour market related with their training experiences and skills portfolios. Even though the reviewers mention that the mandatory period for the obligatory internships is rather short, the experts welcome the flexibility of the departments and faculty and often also of the collaborating industry and public authority partners, to extend the period on demand. In order to enhance the period of exposure to the practice and intensified project-based experiences, the auditors suggest a longer mandatory internship duration at an earlier stage of the curriculum (e.g., four to six months). They remark that students could also more easily win hosting organisations for their Bachelor thesis and get a better understanding of the field and it needs.

The review visit has furthermore shed the light on the currently difficult employment situation against the background of the economic crisis. The auditors appreciate that faculty members in all three programmes are creating the best possible conditions for their students, shown by regular adaptation processes.

Criterion 1.2 Name of the degree programme

Evidence:

- Self Assessment Reports
- Degree Programme and Study Plans

- Discussions during the audit

Preliminary assessment and analysis of the peers:
The auditors identify that the degree names duly match the intended study aims and learning outcomes for all three Bachelor programmes. The self-report states and the programme coordinators report and confirm, that the names are continuously adapted to the changing labour market and scientific developments and undergo a needs-oriented update.

The auditors are convinced that the <u>three study programmes</u> will continuously evolve also in the future and that name adaptations will be made whenever required, in order to secure a good fit between programme objectives and degree expectations.

Criterion 1.3 Curriculum

Evidence:
- Degree Programmes and Study Plans
- Course Syllabus/Outlines
- Objective-Module Matrixes for all degree programmes
- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The curricula of all three Bachelor programmes are well designed and appropriately structured in order for students to successfully reach the intended learning and qualification objectives. The course plans are duly substantiated and are based on mandatory and elective modules which are clearly defined and specified in terms of the knowledge, skills and competencies to be acquired by the students and the particular ways of how to attain them.

The curriculuma of <u>the three degree programmes</u> consist of several groups of modules: university requirements (UR), university electives (UE), college requirements (CR), college electives (CE), department requirements (DR), department electives (DE) as well as required and elective modules for the major (the actual degree programme) the students choose. In addition, different profile lines can be chosen by the students.

University requirements or electives cover general competencies for undergraduates, such as Arabic, Contemporary Omani State and People or Oman and Islamic Civilization or Islamic Culture. The college modules cover fundamental knowledge and skills such as Introduction to Agricultural and Marine Sciences, foundational skills in Chemistry, Physics and Chemistry as well as Computer Programming and Academic Writing in Science. Lastly, the

programme modules focus on the subject-specific knowledge and skills the graduate needs. All these information are detailed in degree and study plans for all study programmes and easily accessible by students or other stakeholders (cf. annex to this report).

To meet the programme requirements in <u>Animal Science</u> students must undertake subject-specific courses consisting of an introduction to animal science, veterinary technology, animal health, anatomy and histology, farm sanitation, disease control & preventive medicine as well as fundamentals of nutrition and an internship, among others. The electives include veterinary parasitology, veterinary microbiology, veterinary pathology & necropsy techniques, and a research project in animal and veterinary sciences, among others.

To meet the programme requirements in <u>Veterinary Technology Science</u> students must undertake subject-specific courses, including an introduction to veterinary technology, anatomy & histology, animal reproductive physiology, veterinary immunology, veterinary parasitology, clinical chemistry, cytology, and an internship, among others. In addition, students must choose 6 courses out of 16 elective courses such as principles of food science, introduction to human nutrition and dietics, animal biotechnology, meat science, among others.

To meet the programme requirements in <u>Marine Science and Fisheries</u> students must participate in various courses comprising introduction to marine science and fisheries, oceanography, marine biochemistry, marine biology, fisheries biology, aquaculture, Oman fisheries resources and an internship, among others. In addition, students can choose from a variety of elective modules, some of which are from neighbouring courses and colleges such as introduction to plant sciences, seafood navigation, marine tourism, fish pathology computer science or environmental biology.

During the audit, the experts learned that the students are generally satisfied with the curricula. One point of criticism from the students was the high number of credit hours deployed for the basic science courses, which partly overlap with the "Foundation Programme". The students also seek better information on the different profile lines (e.g. Marine environment, aquaculture, fisheries) and the different suggested study plans and required modules for the different learning out-comes. The experts suggested colour coding of the different profile lines in order to better inform the students.

The foundation programme was introduced in 2010 to prepare students for their studies. Its main goal is to unify the students' English language proficiency. It also includes basic science courses. Depending on the prospective students' abilities, the foundation programme can be skipped, but can also take up to 2 years.

While the peers welcome that SQU offers all courses in English, which is expected to increase job opportunities and international mobility prospects for students and graduates and understand that the Foundation Programme is intended to unify the English language skills of prospective students, they also emphasise that the Foundation Programme is one aspect that leads to students staying at SQU for more than six years. The peers recommend shortening the programme, e.g., by avoiding unnecessary overlaps between the foundation programme and basic science courses, and by introducing an intensive English language course instead of the foundation programme. This aspect will be taken up again in chapter 2.2.

With regard to the MASF bachelor's programme, the peers note that there is also some overlap with the master's degree programme. The peers recommend aligning the bachelor's and the master's degree programme to allow for a consecutive education without repetitive contents. SQU could shorten the MASF bachelor's programme if it evaluates which courses of the bachelor's degree programme could be shifted to the master's degree programme.

As has been described in 1.1, industry and government representatives are sometimes uncertain about the skills and field of application of VT graduates. In the peers' opinion, it could be helpful to add modules according to the industry needs. This would also be beneficial to distinguish the VT programme from the AS programme, but also from the planned DVM programme.

One tool that could be used to create a clearer picture of the three degree programmes and their graduate profiles would be a better overview of the different graduate profiles that can be achieved by highlighting the recommended modules that contribute to the achievement of each profile.

Although there are some recommendations for adapting the curricula that could help to make the programmes more distinctive, the peers are convinced that the current curricula provide a high level of education with up-to-date content, supported by a high level of teaching.

Criterion 1.4 Admission requirements

Evidence:
- Self-Assessment Reports
- Undergraduate Academic Regulations
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The admission regulations are defined in Part A of the Undergraduate Academic Regulations in line with the SQU general admission requirements and in coordination with the Oman Higher Education Admission Centre. The self-assessment reports duly specify the subject-specific entry requirements for all three Bachelor programmes. The auditors agree that requirements and procedures are sufficiently binding, applicable to all applicants and in line with their expected learning outcomes. The programme coordinators provide relevant details about how applicants can compensate for individual admission requirements they do not yet fulfil, for instance by extending the standard period of the 1-year foundation programme to another year e.g. in order to meet the language requirements needed for successfully participating in the English-taught Bachelor programmes.

Omani students do not have to pay tuition fees for their courses and can live on campus for free. Students are also financially supported through governmental regulation.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Self-Assessment Reports
- SQU Undergraduate Regulations
- Degree Programmes and Study Plans
- Discussions during the audit

Preliminary assessment and analysis of the peers:

After admission to the university, students spend typically one year, sometimes more in a Foundation Program to bring their level of English, mathematics and information technology skills to the standards required to study in English. Although students can attempt a challenge examination at the beginning of the academic year, most spend a minimum of one, more typically two and up to four semesters in the foundation program before being admitted to their "credit" programs in the different Colleges. Students who are unable to meet the minimum learning outcomes at the end of the maximum two-year foundation programs are required to withdraw from the University.

After admission into the different colleges, the academic year is divided into two 15-week semesters: spring (February-May) and fall (September-December). A shorter (seven weeks) semester is offered in the summer with a limited choice of courses for students who are in need of summer courses. The need being defined as a need for graduation, a need for graduation, a need for prerequisite or an extreme delay towards the ideal study plan.

During the first few semesters, students generally take University and College requirement courses as well as three college electives, one of them focusing on their future choices of a major. After taking 23 credits of courses, students should choose one of the ten majors offered by the college, among them the three study programmes up for accreditation. The mechanism of assignation to a major is based on the choice of the student, the grade obtained for at least one science course as well as the cumulative Grade Point Average. It is only at this point that students leave a common core and enter fully into their respective degree programs.

The three Bachelor programmes are in correspondence with the accreditation requirements concerning the modular structure of the programmes, comprising teaching and learning elements. The course structure in all three programmes enables that the overall subject-specific learning and qualification objectives and outcomes can be reached. At the same time, individual specialisations are foreseen in all three programmes, particularly in the context of the elective courses, of the student mobilities and practical work experiences mandatorily gained through internships and voluntarily through additional project-related work.

The auditors recognize that practical work experience can particularly be gained during the compulsory internships, which are an integral element of the curricula of all three study programmes. They suggest that extending the internship periods and moving it to an earlier stage of the curriculum would be particularly beneficial and would maximise the learning outcome of the students and would give students more time to get a better understanding of their field of interests and its needs.

Since industry and government representatives voiced their concerns about students' perceptions of the world of work and the application of their skills, the peers recommend that field trips be organised more frequently to ensure that students gain more hands-on experience. This would require provision of adequate funds.

As far as the overall structure of the degree programmes is concerned, the peers note that students spend an average of more than six years at SQU. From the peers' perspective, this is a very long time compared to the international standard of 3-4 years. In order to be internationally competitive, the peers encourage SQU to think about which aspects of the

study programmes could be shortened. Chapters 1.3 and 2.2 explain some of the peers' suggestions in more detail.

Mobility

The experts recommend that conditions and structures for internationalization should be further strengthened and if possible, should be expanded, in order to generate further chances for international student mobility, internships and final thesis projects with collaborating partner organizations abroad. A window of mobility is currently missing in the study programmes.

Based on the discussions during the audit, the peers gather that international mobility of the students is not yet one of SQUs main priorities and should thus be further expanded in the near future. Currently, mobility is limited to those students with the highest GPA. In addition, only the mandatory internship can be taken abroad. As the review revealed, students are also not informed about or interested in the possibilities of international exchange. The peers strongly recommend improving the opportunities for students to complete a theoretical semester or the internship abroad without prolonging their studies through credit transfer and to check whether students are well enough informed.

The auditors highly appreciate that all courses are taught in English as this will add enormously to the internationalization of the programmes. In that aspect, learning the English language is a key to study success and duration of the study programme. However, it seems that not the majority has a good base in English and many students have to acquire English language skills at the university. Depending on their entry-level test they are offered up to 8 classes in English language, structured in 2 classes per semester. That means that in the worst case, a student has to go for two years before having acquired the desired language skills that are necessary to fully participate in the study programmes. In the auditor's opinion, there needs to be a more focused structure to enable students to get the required language proficiency within six month to one year, maximum, as it is one of the key factors of students' success in and beyond their study time.

Criterion 2.2 Work load and credits

Evidence:
- Self-Assessment Reports
- Degree Programmes and Study Plans

Preliminary assessment and analysis of the peers:
A standard workload of a regular student at SQU is 15 credit hours per semester. This corresponds thus approximately to 4 (contact hours per week) x 15 Weeks x 5 courses (15

credits/ 3 credits per course) = 300 contact hours per semester, split equally between lectures and practicals (laboratory, seminars, tutorials, etc.). SQU has also taken into account the students' estimated self-study time (preparing for essays, reports and presentations, laboratory work, collecting materials, studying for exams) and calculated that students spend on average 115 hours per course (based on a regular 3 credit-hour course), which means that 1 credit hour corresponds to about 38 hours of work per semester. With 30 credit hours per year, this results in an annual workload for students of about 1150 hours for contact and self-study time. With a total of 8 Semesters summing up to 125 credit hours, this results in a workload of 4800 hours to finish the degree programmes.

Students who are academically excellent (GPA>3) can request to take 18 credits per semester if courses are available in their programs and graduating students (students in their last semester) can register, with the approval of their academic advisor, a maximum total load of 21 credits if this extra course load allows them to graduate.

Without probation periods or delays, students will normally complete the degree programme in 8 semesters following their arrival in the College (after the Foundation Programme) and approximately 6 semesters after entering a major. Students can shorten this by taking additional credits during the summer semesters (Research Project, Internship, Statistics...) or taking an overload during some of the regular semesters.

The estimated time budgets seem to be realistic and should enable students to complete the degree without exceeding the regular course duration. However, the average study duration shows that students spent a very long time at SQU (6.68 Years AS, 6.242 years VT, 6.5 years MASF) which according to SQU is a consequence of the introduction of the foundation programme in 2010 or the lowered admission criteria, but could also be due to the fact that students feel comfortable at SQU because all their costs are covered. The auditors do not suspect the extension of the study duration is a work load related problem, firstly, because students reported that they have not experienced workload related problems, and secondly because the overall workload of the programme seems to be rather low. While SQU students have to spend 4800 within four years to complete their studies, students in a regular programme using the ECTS system have to spend 4500-5400 hours (25-30 hours per credit point) within three years to complete their studies.

The auditors urge SQU to introduce a workload survey which could be connected to the course evaluation that takes place every semester. It is important to have clear regulations about how the students' workload is converted into credits. When defining the workload of a module it should be taken into account that the total workload of a 1 h lecture is usually different from the total workload of 1 h of practical work in laboratory. SQU can initially estimate the workload for the average student but this will not necessarily be correct; thus

there should be defined mechanisms for continuous student feedback on the actual work-load and the use of this feedback to correct the structure of the degree programmes if necessary. ECTS credits must be awarded according to the students' workload. If the annual workload actually accounts to 1150 hours, the peers strongly recommend that it be ad-justed to international standards (1500-1800 hours per year).

While the national Omani credit point system can of course be used alongside ECTS credits, it is necessary to introduce the workload based ECTS and to provide transparent regulations for the conversion from one credit point system to the other.

The above figures support the auditors' recommendation to shorten the study programmes also by setting a higher workload per semester/year in order to reduce the number of reg-ular semesters that students have to spent study at the SQU. A number of about 1600 hours per study year will not only shorten study time by a quarter (i.e., one year less of study time) but also preparing students better for their work life as 40-workhour-week exempt-ing the holidays will sum up to a minimum of the mentioned 1600 hours. The ECTS as a base of this audit requires a minimum of 1500 workhours per study year.

The auditors also notice that not all mandatory parts of the curricula are credited. Accord-ing to the degree and study plans of all three programmes, the module Introduction to Agricultural and Marine Science is not credited. These compulsory parts of the curricula must be credited in the future.

Criterion 2.3 Teaching methodology

Evidence:

- Undergraduate Academic Regulations
- Self-Assessment Report
- Course Syllabus/Outlines
- Discussions during the audit

Preliminary assessment and analysis of the peers:

According to the auditors it is clearly visible from the self-assessment reports and the au-diting visit that the existing teaching methods and instruments appropriately support the students in achieving their learning outcomes for each study module in question. The peers identify a good balance between attendance-based learning and self-study periods as well as between theory-based and practical learning elements. Various learning scenarios are applied, including theory and research oriented undergraduate courses, internships, as well

as transferable research and soft skill acquisition through teamwork, presentations, reports, contests, and conference contributions. The peers appreciate the fact that students are involved in projects and collaboration-based research by the faculty, providing concrete chances for implementing their theoretically gained knowledge. This is also the case for the individual and group-based laboratory work with instructions and guidance provided by technicians and teaching staff, and computer work. Hands-on experience is particularly also gained in the context of the internships and research and teaching assistantships and the fact that students have to write reports.

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Reports

Preliminary assessment and analysis of the peers:
According to the auditors the existing support structures are clearly provided, both in terms of quantity and quality. The student feedback has demonstrated that students are highly satisfied with the support provided in terms of (individual and group) mentoring, supervision and help provided in courses and research projects as well as by technicians in the laboratories. The fact that students can request additional support also from staff outside their own courses or projects is highly appreciated, e.g., by the offer to reach out to additional teachers and researchers working on their topic, especially relevant in interdisciplinary endeavours. Based on the input by the industry and public authority representatives the role of support, the peers agree that mentoring and supervision during internships and research projects is regarded as an additional important support mechanism in the process of qualifying the students. They find that during the pandemic the teaching staff has easily adapted the learning methods and channels to the new requirements and successfully developed alternative teaching forms (through Moodle courses, collaborative learning through Google Meet, learning videos, YouTube videos, lab video sessions, scheduled lab visits in small groups etc.) so that students reach their learning objectives also under pandemic circumstances. In terms of the existing support structures the examiners conclude that all three study programmes enable students to complete their programme in the expected quality and within the scheduled time frame.

While support and assistance in all areas is mostly sufficient, the review revealed that there are some aspects of the support system that should be assessed in terms of their contribution to the study ability of the programmes. The international office has already been mentioned in section 2.1. It needs to be reviewed whether students are sufficiently informed and supported with regard to international mobility (e.g., mobility windows, funding, accommodation, etc.). Another aspect that became apparent during the review is the lack of

technical support. The peer group could not establish a stable connection to the WIFI. Unfortunately, the students could verify this experience. A functioning IT system and services are vital for teaching and learning.

3. Exams: System, concept and organization

Criterion 3 Exams: System, concept and organization

Evidence:

- Undergraduate Academic Regulations
- Undergraduate Academic Assessment Policy
- Examination Regulations
- Self-Assessment Reports
- Degree Programme and Study Plans
- Course outlines/Syllabus

Preliminary assessment and analysis of the peers:

In 2017, SQU has adapted a unifying Undergraduate Academic Assessment Policy, aiming at providing a sound and fair assessment and grading of its students throughout the institution. Based on the achievements of learning outcomes, the policy encourages the different programme managers (Dean, Head of Departments) to develop tools that ensure alignment between learning outcomes and assessments. In addition, it provides guidelines on the relative weight of the various assessments (no single component of a course evaluation should exceed 60% of the final mark) and when a final examination is chosen to be part of the course evaluation, it should exceed 40% of the final grade. A minimum of two assessment methods should be used for each course. The Policy also provides in its appendices various methods of standard-setting and grade calculation.

The examination period that concludes each of the two main semesters (Spring, Fall) lasts two weeks (10 days with one weekend) whereas the summer examination period is only one week long (as there are fewer courses offered). Because students take 4 to 6 courses per semester, they have thus 4-6 examinations typically spread over the two-week examination period. The Undergraduate Academic Regulation also provides indications on the scheduling process (Centralized by the Deanship of Admission and Registration) and states

that students should not have more than two examinations per day and no more than three examinations in two successive days.

The Degree and Study plans are to a wide degree sufficiently specific and concretely inform about the course codes, titles, credits, prerequisites, equivalents and additional details whenever required. Details about the course contents, expected learning outcomes, assessment and marking schemes as well as the students' responsibilities are concretely described in the course outlines and syllabus.

The auditors acknowledge that there is a clear structure for examination. Study modules contribute to well-defined study and learning outcomes, for which a specific set of performance indicators is provided for the three programmes examined. The students' knowledge, skills and competencies are appropriately assessed in the courses, in correspondence with the learning objectives and outcomes. There is a suitable and diverse structure of exams, to test theoretical knowledge as well as research and analytical skills and capabilities. The peers regard the combination of different examination forms – comprising exams, quizzes, lab reports, project work, assignments, discussions, debates, and presentations, among others – as suitable formats for reaching the assessment objectives for the specific types of undergraduate courses.

They confirm that specific forms of assessment are duly defined for each course and agree that all students are well informed about the form of assessment and are provided with sufficient details about the requirements to pass the course. The rules for re-sits, disability compensation, illness and other circumstances are written down in the SQU Undergraduate Academic Regulations are transparent to all stakeholders.

In the course of the visit, the students concede that exam procedures and regulations are well communicated to them.

The auditors critically comment on the fact that a final project work is solely offered on an optional basis, in case of AS and VT in the context of the Major Elective course "Research Project Animal & Veterinary Sciences" and in case of the MASF in the context of the Departmental Elective course "Research Project in Marine Science & Fisheries".

According to the interviewed students and graduates, a final thesis is regarded as particularly advantageous from a career perspective. They share their experience that employers are regularly asking students about their final thesis, particularly during job interviews. The students agree that a final thesis would deepen their skills and competencies and would be beneficial when demonstrating their study-related qualifications.

The reviewers observe that in the exemplary student reports and exam papers as part of the supporting documents, a final thesis that meets international standards for independent scientific student work is missing. They conclude that this essential element is missing

in the current setup of the Bachelor programmes, and that a final thesis must be added as a compulsory element into the curricula. This will support the ongoing consecutive master programs and is also expected to open doors for enhanced international student and graduate mobility for academic and professional purposes.

Marking procedures are transparently described in the course outlines and are based on well-defined, plausible criteria.

The peers also inspect a sample of examination papers and are very satisfied with the general quality of the samples.

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

4. Resources

Criterion 4.1 Staff

Evidence:
- CVs of Faculty and Staff for all degree programms
- Academic Staff Performance Report
- Contract Renewal Form
- Self-Assessment Reports
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The qualifications, scientific orientations and skills of the teaching staff are clearly identifiable through the documents provided, which contributes to a successful implementing of the courses. The faculty staff members have demonstrated international track records, with longstanding experience and sound expertise and matching research outputs in the respective fields of studies, feeding well into the study programmes. There are explicit staff regulations and recommendations for faculty members to spend training and research stays abroad, which is well appreciated by the peers.

Overall, the auditors confirm that the staff has the right skill set in order to meet the teaching demands requested to ensure high quality teaching and training for the Bachelor students. During the visit they acknowledge that there is a good balance between research, teaching, and administrative tasks. They do not identify major risks potentially impeding a

responsible execution of the services offered to students. They are also convinced that the research conducted by the faculty duly matches the training requirements of the students, particularly through the practice-oriented elements in the curricula and by involving students in research projects. Last but not least, the auditors are impressed by the positive and solution-focused mindedness of the faculty, and welcome the collaborative working atmosphere between staff members, evidently willing to create the best conditions to meet the learning requirements of the BA students.

Criterion 4.2 Staff development

Evidence:
- Self-Assessment Reports
- Website

Preliminary assessment and analysis of the peers:
Continuous staff development is ensured by the Center for Excellence In Teaching and Learning of SQU, offering different types of trainings to encourage targeted pedagogical practises in order to maximise students' engagement and learning outcomes. Further teaching evaluations are regarded as useful mechanisms to monitor and advance the teaching skills of the staff based on a peer-to-peer approach. The visit has brought to the surface that online learning is regarded as an additional channel for the acquisition of essential online teaching skills which became indispensable during the pandemic. Annual reports focusing on teaching evaluations are quality assurance mechanisms in place, which allow individual teaching staff members to seek improvement of their skills whenever needed.

One additional tool which supports staff development is the actively promoted peer review system, that envisages for courses to be reviewed by colleagues. The auditors welcome this active team effort and consider it an important way to improve the quality of the teaching at SQU even further.

Criterion 4.3 Funds and equipment

Evidence:
- Self-Assessment-Reports
- Documentation of resources and facilities
- Discussions during the audit

Preliminary assessment and analysis of the peers:

Following the assessment of the self-assessment reports and supporting documents, as well as the impressions of the onsite visit, the auditors notice that suitable and high-quality infrastructure and equipment are guaranteed for all three programmes. They acknowledge the SQU policy to share all technical resources and equipment among colleges and programmes in order to act flexibly when supporting the students' projects, even in case of limited capacities. The same counts for the laboratory places for which a transfer to other programmes' places is enabled in case of potential overbookings or lack of spaces. A good balance between running experiments and working in laboratories in group and independent self-study is also recognised by the peers. Sound structures are in place to train the students in terms of safety regulations and instructions.

During the discussions with the students, they confirmed that they are satisfied with the equipment available as well as the facilities such as laboratories and stables.

According to the auditors, access to the SQU library, to electronic scientific and educational resources, the electronic library system, including recent publications needed for the study and research is appropriately enabled for all students.

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

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:
- Degree and study plans
- Self-Assessment report
- Discussion during the audit

Preliminary assessment and analysis of the peers:

The module descriptions are duly differentiated and sufficiently detailed in terms of identification codes, persons in charge, teaching methods, expected learning outcomes, contents, planned use/applicability, admission and examination requirements, forms of assessment as well as the recommended literature for each module. However, the auditors notice that information on workload and ECTS credits is missing, as well as the module descriptions for the research projects (ANVS4902 and MASF4902). They ask the SQU to

revise their module descriptions, to provide the missing module descriptions and to check whether all other descriptions have been compiled and published.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Sample of the certificate and transcript of records

- Self-Assessment Report

- Discussion during the audit

Preliminary assessment and analysis of the peers:

There is an absence of an English version of a Diploma Supplement in the documents provided, which must become a complementary element of the degree certificates, providing information on the student's qualification profile and individual performance as well as the classification of the degree programme with regard to its applicable education system. Graduates will be able to benefit from this internationally recognized, standardized document as it enables international comparability of study programmes and qualifications, and will therefore boost the recognition of the academic qualifications and degrees beyond national boundaries. For the students the English Diploma Supplement is thus of added value in terms of facilitating academic and professional mobility.

Criterion 5.3 Relevant rules

Evidence:

- Self-Assessment Report

- SQU Undergraduate Academic Regulations

- Discussion during the audit

Preliminary assessment and analysis of the peers:

The auditors confirm that the rights and duties of both the university and the students are clearly defined and binding. Availability and free accessibility of all relevant information and regulations related to the study process, the access to the programme, the final degree, examination, quality assurance etc. will be guaranteed for all stakeholders, and is formulated in the course language English as well as in Arabic. However, the module handbooks (course outlines) and learning outcomes are currently not accessible on the websites of the programmes. The peers request SQU to make this information available to all stakeholders by publishing it on the programmes' website.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:
- Academic Policy Review Policy
- Examples of Evaluation Forms
- Course and Teaching Survey Summaries
- Self-Assessment Reports
- SQU Undergraduate Regulations
- Discussion during the audit

Preliminary assessment and analysis of the peers:
The auditors acknowledge that there is a comprehensive quality assurance system in place at university level, at college level and department level, which is well elaborated in the Self-Assessment Reports and supporting documents as well as further specified during the online visit.

There is clear evidence provided for continuous quality assessment procedures for all three programmes. Programmes not yet accredited go through an internal programme review every five years following the evaluation by this internal Academic Program Review, which was also the case for the reviewed programmes. Courses are also duly evaluated by students based on standard Course and Teaching Survey (CTS) comprising online questionnaires with Likert-scale and open questions every semester.

During the discussion with industry and government representatives and alumni, the auditors get an impression about the manifold practices and ideas for joint collaboration (internships, joint research projects, joint consultations) and involvement of external partners in the development of the three BA programmes which is appreciated as an important element of quality assurance. The experts welcome the existing structure of Advisory Boards for the college, comprising independent experts (representatives of the industry and the government) with the mission to regularly review and provide feedback on the academic programmes, on teaching, research, outreach, consultancy, internships as well as the qualification of students and graduates and potential employability issues and to formulate

ideas for potential solutions and improvements. However, they recommend pursuing the plans to establish advisory boards also on the departmental level to work more specifically on the programmes and to establish mutual understanding between the programme and its stakeholders. It was said that earlier recommendations by the alumni and industries did not find representation inside the revised curricula.

The auditors inquire about the reasons of the university for seeking international accreditation of its BA programme. The programme coordinators convincingly reason in terms of SQU's envisaged enhancement of the programmes' international reputation and its internationalization processes, also in terms of offering additional chances for international student mobility.

Students and other stakeholders duly take part in the quality assurance process. The outcomes and all measures derived are made known to anyone involved. All methods employed and data analyzed are regarded as suitable for the purpose of quality assurance, aiming at continuously improving the quality and of ensuring sustainability of the three programmes.

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

D Additional Documents

- Samples of research projects

E Comment of the Higher Education Institution

The institution refrains from submitting a statement.

F Summary: Peer recommendations (24.12.2022)

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

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Animal Science	With requirements for one year	30.09.2028	–	–
Ba Veterinary Technology	With requirements for one year	30.09.2028	–	–
Ba Marine Science and Fisheries	With requirements for one year	30.09.2028	–	–

Requirements

A 1. (ASIIN 2.2) All mandatory parts of the curriculum must be credited.

A 2. (ASIIN 2.2) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload is required for one ECTS point. Adjust the annual workload and credits to international standards.

A 3. (ASIIN 5.1) Module descriptions must be available for all modules. The module descriptions need to include the correct information about the students' workload and the awarded credits (Omani and ECTS).

A 4. (ASIIN 5.2) A Diploma Supplement that contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student must be issued to every graduate.

A 5.   (ASIIN 5.3) Make the information about the programmes (module descriptions, intended learning outcomes, Mobility window, pathways etc.) available to all stakeholders e.g. by publishing it on the programmes' webpage.

A 6.   (ASIIN 3) A Bachelor thesis must be integrated as a compulsory element of the curriculum and must become a prerequisite for graduation.

Recommendations

E 1.   (ASIIN 2.1) It is recommended to provide funding for excursions to ensure that students gain more hands-on experience.

E 2.   (ASIIN 1.1, 2.1) It is recommended to extend the duration of the internship and to move it to an earlier stage of the curriculum and to provide more practical experiences to each student.

E 3.   (ASIIN 1.3) It is recommended to provide a better overview of the curricula, for example by showing different recommended study plans and required modules to achieve different graduate profiles.

E 4.   (ASIIN 1.3, 2.1, 2.2) It is recommended to shorten the study programmes in order to be internationally competitive (e.g. by increasing the workload per semester, avoid overlap between the foundation programme and the regular studies, introducing an intensive English language course).

E 5.   (ASIIN 2.4) It is recommended to evaluate university services (e.g. International Office, IT-Services) with regard to their contribution to supporting studyability.

E 6.   (ASIIN 1.1, 6) It is recommended to establish advisory boards with external stakeholders on department level.

For the Bachelor's degree programme Marine Science and Fisheries

E 7.   (ASIIN 1.3) It is recommended to revise the modules and module contents in order to deliver a consecutive Msc. Marine and Fisheries programme without repeating the bachelor contents.

E 8.   (ASIIN 1.3) It is recommended to evaluate which courses could be moved to the master programmes to shorten the bachelor programme.

For the Bachelor's degree programme Veterinary Technology

E 9. (ASIIN 1.1, 1.3) It is recommended to sharpen the profile, e.g. by adding modules according to stakeholder feedback.

G Comment of the Technical Committees

Technical Committee 08 – Agriculture, Nutritional Sciences and Landscape Architecture (16.03.2023)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and follows the assessment of the auditors.

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

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Animal Science	With requirements for one year	30.09.2028	–	–
Ba Veterinary Technology	With requirements for one year	30.09.2028	–	–
Ba Marine Science and Fisheries	With requirements for one year	30.09.2028	–	–

H Decision of the Accreditation Commission (24.03.2023)

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

The Accreditation Commission discusses the procedure and agrees with the assessment of the auditors and the technical committee. However, it decided to delete E.7 and E.8 as they related to the Ma Marine and Fisheries, which is not the subject of this proceeding.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Animal Science	With requirements for one year	30.09.2028	–	–
Ba Veterinary Technology	With requirements for one year	30.09.2028	–	–
Ba Marine Science and Fisheries	With requirements for one year	30.09.2028	–	–

Requirements

A 1. (ASIIN 2.2) All mandatory parts of the curriculum must be credited.

A 2. (ASIIN 2.2) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload is required for one ECTS point. Adjust the annual workload and credits to international standards.

A 3. (ASIIN 5.1) Module descriptions must be available for all modules. The module descriptions need to include the correct information about the students' workload and the awarded credits (Omani and ECTS).

A 4. (ASIIN 5.2) A Diploma Supplement that contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic

level of the degree programme as well as about the individual performance of the student must be issued to every graduate.

A 5. (ASIIN 5.3) Make the information about the programmes (module descriptions, intended learning outcomes, Mobility window, pathways etc.) available to all stakeholders e.g. by publishing it on the programmes' webpage.

A 6. (ASIIN 3) A Bachelor thesis must be integrated as a compulsory element of the curriculum and must become a prerequisite for graduation.

Recommendations

E 1. (ASIIN 2.1) It is recommended to provide funding for excursions to ensure that students gain more hands-on experience.

E 2. (ASIIN 1.1, 2.1) It is recommended to extend the duration of the internship and to move it to an earlier stage of the curriculum and to provide more practical experiences to each student.

E 3. (ASIIN 1.3) It is recommended to provide a better overview of the curricula, for example by showing different recommended study plans and required modules to achieve different graduate profiles.

E 4. (ASIIN 1.3, 2.1, 2.2) It is recommended to shorten the study programmes in order to be internationally competitive (e.g. by increasing the workload per semester, avoid overlap between the foundation programme and the regular studies, introducing an intensive English language course).

E 5. (ASIIN 2.4) It is recommended to evaluate university services (e.g. International Office, IT-Services) with regard to their contribution to supporting studyability.

E 6. (ASIIN 1.1, 6) It is recommended to establish advisory boards with external stakeholders on department level.

For the Bachelor's degree programme Veterinary Technology

E 7. (ASIIN 1.1, 1.3) It is recommended to sharpen the profile, e.g. by adding modules according to stakeholder feedback.

I Fulfilment of Requirements (22.03.2024)

Comments of the peers and the Technical Committee (27.02.2024)

Requirements

For all degree programmes

A 1.   (ASIIN 2.2) All mandatory parts of the curriculum must be credited.

Initial Treatment	
Peers	Fulfilled Justification: All courses are credited.
TC 08	fulfilled Justification: The Technical Committee discusses the accreditation procedure and follows the assessment of the experts without any changes.

A 2.   (ASIIN 2.2) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload is required for one ECTS point. Adjust the annual workload and credits to international standards.

Initial Treatment	
Peers	Fulfilled: Justification: The University presents a convincing supervision of the student work load and its transfer into the credit system Not fulfilled. Justification: although SQU addressed this requirement with an internal study, the major point(s) were not taken care of. There is still no definition of workload for on ECTS point. SQU does not seem to be aware that there is band of possible hours (25-30) to be administered to one ECTS-Point, resulting in a different workload for students.

	Additionally, SQU is still holding on to national minimum requirements (120 credit points) and is not aware that, although outcome related, this is still a workload value (10 hrs per point), as SQU itself stated. Therefore, the workload in the current system with 120 credit points is equalling to 1200 hours of workload, whereas the minimum requirement of 60 ECTS x 25 hrs (which is the lower bond of the band) equals in 1500 hours of workload per year. SQU's assumption that the Omani 120 credit points/hours are equal to 60 ECTS is therefore wrong and does not give the impression that SQU is capable of using the ECTS system (even if it was for calculating purposes). It means that as a result, the study programs take one year more as 300 hours missing in four years sum up to 1200 hours which is exactly one more year in the calculation of the SQU.
TC 08	not completely fulfilled Justification: The Technical Committee discusses the procedure and agrees with the more detailed objection of one of the experts.

A 3. (ASIIN 5.1) Module descriptions must be available for all modules. The module descriptions need to include the correct information about the students' workload and the awarded credits (Omani and ECTS).

Initial Treatment	
Peers	not completely fulfilled for all programs Justification: SQU submitted papers with very detailed information on the modules given. On a short sampling inspection, the module handbook in Veterinary Technology showed quite some flaws. Although it is outlined in the accompanying letter that the research courses (ANVS 4905) is building up on ANVS 4904 and cover different topics, the respective module description are identical.
TC 08	not completely fulfilled for all programs Justification: The Technical Committee discusses the accreditation procedure and follows the assessment of the experts without any changes.

A 4.   (ASIIN 5.2) A Diploma Supplement that contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student must be issued to every graduate.

Initial Treatment	
Peers	Fulfilled Justification: as the College has created a template for the Diploma Supplement that contains the recommended details; it was approved by the College Board and implemented by majors.
TC 08	fulfilled Justification: The Technical Committee discusses the accreditation procedure and follows the assessment of the experts without any changes.

A 5.   (ASIIN 5.3) Make the information about the programmes (module descriptions, intended learning outcomes, Mobility window, pathways etc.) available to all stakeholders e.g. by publishing it on the programmes' webpage.

Initial Treatment	
Peers	Not completely fulfilled Justification: looking at the webpage, the SQU provided, it showed this picture. It is very unlikely that the Vet Tech Program will have specialization on Crop Production/ Protection. And it is even more unlikely that the text is identical with Marine Science and Fisheries… It is also hard to understand why the updated degree plan 2022 (with the obligatory research project as a major change) is not available here…
TC 08	not completely fulfilled Justification: The Technical Committee discusses the accreditation procedure and follows the assessment of the experts without any changes.

A 6.   (ASIIN 3) A Bachelor thesis must be integrated as a compulsory element of the curriculum and must become a prerequisite for graduation.

Initial Treatment	
Peers	Fulfilled

	Justification: As across the three BSc majors, two new compulsory research project courses with a total of 6 credit hours that serve as "bachelor thesis/final project" have been introduced in the curriculum and are prerequisites for graduation.
TC 08	fulfilled Justification: The Technical Committee discusses the accreditation procedure and follows the assessment of the experts without any changes.

Decision of the Accreditation Committee (22.03.2024)

The Accreditation Commission discusses the procedure and follows the assessment of the experts and the Technical Committee without any changes. Concerning A 2, it agrees with the part of the experts who state that there is currently a lack of understanding of ECTS. It tried to clarify that the actual number of ECTS should be used as a reference. This would be between 40-48 ECTS per year, using 1200 hours of student work as a reference.

The Accreditation Commission decides to award the following seals:

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Animal Science	Requirement 2,3,5 not fulfilled	/	6 months prolongation
Ba Veterinary Technology	Requirement 2,3,5 not fulfilled	/	6 months prolongation
Ba Marine Science and Fisheries	Requirement 2,3,5 not fulfilled	/	6 months prolongation

Appendix: Programme Learning Outcomes and Curricula

According to the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Animal Science:

Table 11: Description of the 8 A-H Program Learning Outcomes defined for the BSc in Animal and Veterinary Sciences.

Nº	Description	Code
1	Acquire broad based knowledge of husbandry, animal welfare and animal management.	A
2	Demonstrate knowledge of animal health and disease control.	B
3	Apply knowledge of modern animal production technologies, sustainable production systems and animal products.	C
4	Demonstrate knowledge of applied animal science and business/farm management skills.	D
5	Develop critical thinking and problem solving skills and evaluate strategies to address real world problems and national concerns pertaining to the field of Animal Science.	E
6	Interpret and critically evaluate scientific information as it applies to the field of Animal Science.	F
7	Demonstrate ability to effectively communicate technical knowledge orally and in writing.	G
8	Recognition of the need for, and an ability to engage in life-long learning.	H

The codes used to identify these outcomes are used throughout the program (and this report) and correspond to a mixture of the A-H outcomes.

The following **curriculum** is presented:

DEPARTMENT OF ANIMAL AND VETERINARY SCIENCES
ANIMAL SCIENCE
Study Plan: for Cohort 2021

Sem.	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
ONE FALL		Foundation Program	0		UR
	TOTAL		**0**		

Sem.	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
TWO SPRING	ARAB1060	Arabic	2	= ARAB1019 (for non-Arabic speaker), 3 Cr.& Offered in Fall semester only	UR
	CAMS2000	Intro. CAMS	0		CR
	CAMS2003	Intro. to Food & Resource Economics	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
	CHEM2101	General Chemistry I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
	LANC2145	Communication in Agricultural Sciences	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
		University Elective	2		UE
	TOTAL		**14**		

Sem.	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
THREE FALL	HIST1010	Oman & Islamic Civilization	2	=ISLM1010	UR
	BIOL2101	General Biology I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
	LANC2146	Academic Writing in Science	3	LANC2145	CR
		University Elective	2		UE
		University Elective	2		UE
	ANVS2101	Introduction to Animal Science	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
	TOTAL		**16**		

Sem.	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
FOUR SPRING	CAMS3000	Seminar & Presentation Skills	2	CAMS2000, FPCS(0101 or 0102), FPMT(0105 or 0109), LANC2146	CR
	SOCY1005	Contemporary Omani State & People	2	= SOCY1007 (for non-Omanis)	UR
	CAMS3001	Biometry & Experimental Design in AMS	3	CAMS2000, FPCS(0101 or 0102), FPMT(0105 or 0109), LANC2146	CR
	PHYS2101	General Physics I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
	ANVS2201	Introduction to Veterinary Technology	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
		College Elective	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
	TOTAL		**17**		

Sem.	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
FIVE FALL	ANVS3101	Genetics and Animal Breeding	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3102	Animal Health	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3104	Anatomy and Histology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3108	Farm Sanitation, Disease Control & Preventive Medicine	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

SIX SPRING	ANVS3105	Fundamentals of Nutrition	3	(ANVS(2101 or 2201)), BIOL2101	AR
	ANVS3106	Systemic Physiology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS4102	Poultry Production	3	ANVS(2101 or 2201) + CR*	AR
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

SEVEN FALL	ANVS3107	Animal Reproductive Physiology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3208	Veterinary Immunology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS4113	Animal Biotechnology	3	ANVS(2101 or 2201) + CR*	AR
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

EIGHT SPRING	ANVS4124	Dairy and Beef Production	3	ANVS(2101 or 2201) + CR*	AR
	ANVS4106	Sheep and Goats Production	3	ANVS(2101 or 2201) + CR*	AR
	ANVS4108	Meat Science	3	ANVS(2101 or 2201) + CR*	AR
	ANVS4111	Horse Management and Care	3	ANVS(2101 or 2201) + CR*	AR
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

SUMMER	ANVS 4800	Animal Science Internship	3	CR*	AR
	TOTAL		**3**		

NINE FALL	CAMS4101	Management & Business Skills	3	CR*	CR
	ANVS3109	Farm Practicum	3	ANVS(2101 or 2201) + CR*	AR
	ANVS4107	Animal Nutrition	3	ANVS3105 + CR*	AR
	ANVS4104	Camel Physiology and Husbandry	3	ANVS(2101 or 2201) + CR*	AR
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

* CR - CAMS college requirement courses which are BIOL2101, CAMS2000, CAMS2003, CAMS3000, CAMS3001, CHEM2101, PHYS(2101 or 2107).

[1] Non-Arabic speakers should register for ARAB1019 (3 credits), offered only during fall semesters.

[2] Non-Omanis should register for SOCY1007 (2 credits)

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According to the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Veterinary Technology:

Table 10: Description of the 6 (A-F) Program Learning Outcomes defined for the BSc in Veterinary Technology.

Nº	Description	Code
1	Demonstrate pertinent knowledge pertaining to preclinical veterinary sciences.	A
2	Demonstrate proficiency in conducting and interpreting routine diagnostic clinical and radiographic procedures.	B
3	Demonstrate knowledge of animal husbandry, diseases, anesthesia, clinical care and welfare.	C
4	Demonstrate knowledge of preventive medicine and veterinary public health.	D
5	Demonstrate ability to communicate effectively with animal owners, farmers, and relevant animal health care team members.	E
6	Demonstrate ability to seek, find, evaluate and use information and employ information technology to engage in lifelong learning.	F

The following **curriculum** is presented:

DEPARTMENT OF ANIMAL & VETERINARY SCIENCES

VETERINARY TECHNOLOGY

Study Plan: for Cohort 2021

Sem.	Course	Course Title	Cr.	Pre-req./Co-req.*	Cat.
ONE FALL		Foundation Program	0		UR
	TOTAL		**0**		

Sem.	Course	Course Title	Cr.	Pre-req./Co-req.*	Cat.
TWO SPRING	ARAB1060	Arabic[1]	2	= ARAB1019 (for non-Arabic speaker), 3 Cr.& Offered in Fall semester only	UR
	CAMS2000	Intro. CAMS	0		CR
	CAMS2003	Intro. to Food &Resource Economics	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
	CHEM2101	General Chemistry I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
	LANC2140	English for CAMS I	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
		University Elective	2		UE
	TOTAL		**14**		

Sem.	Course	Course Title	Cr.	Pre-req./Co-req.*	Cat.
THREE FALL	HIST1010	Oman & Islamic Civilization	2	=ISLM1010	UR
	BIOL2101	General Biology I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
	LANC2141	English for CAMS II	3	LANC(2140 or 2142)	CR
		University Elective	2		UE
		University Elective	2		UE
	ANVS2201	Introduction to Veterinary Technology	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
	TOTAL		**16**		

Sem.	Course	Course Title	Cr.	Pre-req./Co-req.*	Cat.
FOUR SPRING	CAMS3000	Seminar & Presentation Skills	2	CAMS2000, FPCS(0101 or 0102), FPMT(0105 or 0109), LANC2141	CR
	SOCY1005	Contemporary Omani State & People[2]	2	= SOCY1007 (for non-Omanis)	UR
	CAMS3001	Biometry & Experimental Design in AMS	3	CAMS2000, FPCS(0101 or 0102), FPMT(0105 or 0109), LANC2141	CR
	PHYS2101	General Physics I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
	ANVS2101	Introduction to Animal Science	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
		College elective	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
	TOTAL		**17**		

Sem.	Course	Course Title	Cr.	Pre-req./Co-req.*	Cat.
FIVE FALL	ANVS3104	Anatomy & Histology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3107	Animal Reproductive Physiology	3	ANVS(2101 or 2201), BIOL2101	AR

	ANVS3108	Farm San., Disease Cont. & Prev. Med.	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3208	Veterinary Immunology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3211	Veterinary Haematology	3	ANVS(2101 or 2201), BIOL2101	AR
	TOTAL		15		

	ANVS2204	Veterinary Parasitology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS2206	Veterinary Microbiology	3	ANVS(2101 or 2201), BIOL2101	AR
SIX SPRING	ANVS2207	Veterinary Pharmacology & Pharmacy	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3106	Systemic Physiology	3	ANVS(2101 or 2201), BIOL2101	AR
	ANVS3212	Clinical Chemistry, Cytology & Urology	3	ANVS3211, BIOL2101	AR
	TOTAL		15		

	ANVS4110	Vet. Pathology & Necropsy Technique	3	ANVS3104 + CR*	AR
	ANVS4112	Diseases of Large Animals	3	ANVS3106 + CR*	AR
SEVEN FALL	ANVS4213	Diagnostic Microbiology	3	ANVS2206 + CR*	AR
	ANVS4214	Diseases of Small & Laboratory Animals	3	ANVS3106 + CR*	AR
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		15		

	ANVS3213	Diagnostic Imaging & Anaesthesiology	3	ANVS3104	AR
	ANVS4102	Poultry production	3	ANVS2101 or ANVS2201+ CR*	AR
	ANVS4108	Meat Science	3	BIOL2101 + CR*	AR
EIGHT SPRING	ANVS4215	Clinical Lab. Diag. & Path. Rotation	2	ANVS3211 + CR*	AR
	ANVS4216	Small Animal Clinical Procedure	2	ANVS4214 + CR*	AR
	ANVS4217	Large Animal Health Rotation I	2	ANVS4112 + CR*	AR
	TOTAL		15		

SUMMER	ANVS4801	Veterinary Technology Internship	3	ANVS4217 + CR*	AR
	TOTAL		3		

	CAMS4001	Management & Business Skills	3	CR*	CR
	ANVS4107	Animal Nutrition	3	ANVS3105 + CR*	AR
NINE FALL	ANVS4218	Veterinary Public Health	2	ANVS4110 + CR*	AR
	ANVS4219	Laboratory Animal Health Rotation	2	ANVS4214 + CR*	AR
	ANVS4220	Large Animal Health Rotation II	2	ANVS4217 + CR*	AR
	ANVSXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		15		

* CR - CAMS college requirement courses which are BIOL2101, CAMS2000, CAMS2003, CAMS3000, CAMS3001, CHEM2101, PHYS(2101 or 2107).

[1] Non-Arabic speakers should register for ARAB1019 (3 credits), offered only during fall semesters.

[2] Non-Omanis should register for SOCY1007 (2 credits)

According to the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Marine Science and Fisheries:

The pedagogical goals of the program are to:

● Enable students to maintain and acquire up-to-date knowledge and skills in at least one of the many specialization areas of marine science and fisheries.

● Ensure that our graduates have the skill sets necessary to apply the principles of scientific enquiry to problem solving with respects to the sustainable exploitation and conservation of the marine environments and within the specific national and international societal contexts.

● Provide a learning environment conducive to personal continuous growth while gaining practical work experience

● Encourage students to develop efficient oral and written communication skills that allows them to work effectively alone and in teams.

Code	University Graduate Attribute	College Graduate Attribute	Program Learning Outcomes	A-M outcomes
A.1	Apply the knowledge and skills relevant to the specialization	Graduates will have a broad and coherent knowledge base, with depth in at least one area of practice or specialization.	a demonstrated depth of knowledge in the areas of marine science, aquaculture and fisheries;	A
			a basic knowledge of the components of broad agri-food systems, specializing in their relationships to fisheries and aquaculture	A2
		Graduates will be able to apply knowledge in their field of expertise to analyze problems and devise sustainable and innovative solutions.	the ability to analyse and interpret the results of experiments, surveys and other data collection methods commonly used in marine sciences.	B
			an understanding of the basic elements of the business associated to fisheries, aquaculture and sustainable exploitation of marine natural resources	M
A.2	Communicate Effectively and use information and communication technologies	Graduates will be able to communicate effectively orally, and in writing, to their peers and to the society at large.	the ability to communicate effectively in English orally and in writing and to various audiences	G
		Graduates will have developed the capacity to search, find, evaluate and process information using Information and Computer Technologies (ICTs).	an ability to use computers and other tools in the practice of their profession	K

A.3	Critically analyze complex information and present it in simple clear manner	Graduates will have the ability to critically analyze and simplify complex information using appropriate, evidence based, methods, to provide valid conclusions.	the ability to develop sustainable agri-food-systems or some of their components within practical constrains: financial, environmental, social, ethical, health and safety	C
B.1	Interpersonal skills and alignment with culture of international labour market to assist them in practical life and in living successfully	The skills necessary to compete successfully on the national and international professional scenes		
B.2	Skills and motivation for independent learning and engagement in lifelong learning and research	Graduates will recognize the need for and have the ability to engage in independent life-long learning.	a recognition of the need for, and an ability to engage in life-long learning	I
B.3	Work ethics and positive values and intellectual independence and autonomy	Graduates will apply ethical principles and commit to professional ethics and social responsibilities.	the attitudes of their professions necessary to promote an ethical professional behavior in the use of marine natural resources.	F
B.4	Teamwork skills and display potential leadership qualities	Graduates will function effectively as an individual and as member or leader of a team, and in multidisciplinary settings.	the ability to think critically, provide solutions to problems, and implement these solutions, especially in a team context	D/E
C	Relish good citizenship qualities, be conscious of their national identity and be socially responsible, engage in community affairs and be mindful of contemporary issues.	Graduates will appreciate the importance of environment, natural resources conservation and sustainability in practicing their profession in a local and global context.	an ability to link marine sciences and social sciences in the context of a sustainable exploitation of the marine natural resources both nationally and internationally.	H2
			an appreciation of the arts and humanities, particularly when inspired by the marine environment	L

The following **curriculum** is presented:

DEPARTMENT OF MARINE SCIENCE AND FISHERIES

MARINE SCIENCE AND FISHERIES

Study Plan: for Cohort 2021

Sem.	Course Code	Course Title	Cr.	Pre-Requisite	Cat.
ONE FALL		Foundation Program	0		UR
	TOTAL		**0**		

Sem.	Course Code	Course Title	Cr.	Pre-Requisite	Cat.
	ARAB1060	Arabic[1]	2		UR
	CAMS2000	Intro. CAMS	0		CR
	CAMS2003	Intro. to Food and Resource Economics	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
TWO SPRING	BIOL2101	General Biology I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
	LANC2145	Communication in Agricultural Sciences	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
		University Elective	2		UE
	TOTAL		**14**		

Sem.	Course Code	Course Title	Cr.	Pre-Requisite	Cat.
	HIST1010	Oman & Islamic Civilization	2	=ISLM1010	UR
	CHEM2101	General Chemistry I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
	LANC2146	Academic Writing in Science	3	LANC 2145	CR
THREE FALL		University Elective	2		UE
		University Elective	2		UE
	MASF2003	Intro. to Marine Sci. & Fisheries	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
	TOTAL		**16**		

Sem.	Course Code	Course Title	Cr.	Pre-Requisite	Cat.
	SOCY1005	Contemporary Omani State & People[2]	2		UR
	CAMS3000	Seminar & Presentation Skills	2	CAMS2000, FPCS(0101 or 0102), FPMT(0105 or 0109), LANC2146	CR
	CAMS3001	Biometry & Experimental Design in AMS	3	CAMS2000, FPCS(0101 or 0102), FPMT(0105 or 0109), LANC2146	CR
FOUR SPRING	PHYS2101	General Physics I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
		College Elective	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
		College Elective	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CE
	TOTAL		**17**		

Sem.	Course Code	Course Title	Cr.	Pre-Requisite	Cat.
	MASF3020	Oceanography	3	MASF2003	AR
	MASF3052	Marine Invertebrate Zoology	3	BIOL2101	AR
FIVE FALL	MASF3060	Integrated Coastal Zone Management	3	MASF2003	AR
	MASF3093	Mar. Biochemistry & Mol. Bio.	3	BIOL2101, CHEM2101	AR
	MASFXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

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[2] Non-Omanis should register for SOCY1007 (2 credits)

	MASF3001	Physical Oceanography	3	MASF2003, PHYS2101	AR
SIX SPRING	MASF3026	Marine Biology	3	BIOL2101, MASF2003	AR
	MASF3040	Ichthyology	3	BIOL2101, MASF2003	AR
	MASF3094	Marine Microbiology	3	BIOL2101, MASF2003	AR
	MASFXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

	MASF3062	Aquaculture	3	MASF3040	AR
SEVEN FALL	MASF3090	Fish. Gear & Vessel Tech.	3	MASF2003	AR
	MASF4042	Fisheries Biology	3	MASF3040 + CR*	AR
	MASFXXXX	Major Elective	3	Check pre-requisites	AE
	MASFXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

	MASF3021	Marine Science Practicum	3	MASF2003	AR
EIGHT SPRING	MASF3053	Marine Vertebrate Zoology	3	BIOL2101	AR
	MASF4043	Fisheries Management I	3	MASF4042 + CR*	AR
	MASF4045	Marine Pollution	3	MASF3026 + CR*	AR
	MASF4060	Oman Fisheries Resources	3	MASF3040 + CR*	AR
	TOTAL		**15**		

	MASF4800	Marine Science & Fisheries Internship	3	After 87 Credits + CR*	AR
SUMMER	**TOTAL**		**3**		

	CAMS4001	Management and Business Skills	3	CR*	CR
NINE FALL	MASF4020	Marine Ecology	3	MASF3026 + CR*	AR
	MASFXXXX	Major Elective	3	Check pre-requisites	AE
	MASFXXXX	Major Elective	3	Check pre-requisites	AE
	MASFXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		**15**		

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