

Accreditation Standards for Animal Science Programs

American Society of Animal Science Accreditation Committee

Introduction:

The American Society of Animal Science (ASAS) exists to foster the discovery, sharing and application of scientific knowledge concerning the care and responsible use of animals to enhance animal and human health and well-being. As such, the following five core principles guide the work of the society:

1. Animals are essential to human life and well-being.
2. The care and use of animals are held to the highest standards of integrity and professional ethics.
3. Research and scientific information are communicated in an open, transparent, and dynamic manner.
4. Career development for animal scientists, educators and producers is essential to the viability of the allied and animal industries.
5. Animal science and the production of animal-sourced foods must continually evolve to meet the needs and values of society.

Additional details about the ASAS can be found at www.asas.org. Pursuant to the core principles of the society as defined in the Mission Statement, and particularly core principal 4, the American Society of Animal Science, in furtherance of these principals, accredits educational programs in the United States that lead to a Bachelor of Science degree in Animal Science.

The objectives of ASAS Accreditation are as follows:

- To improve the overall quality of animal science education through program self-evaluation and peer review by qualified academic and industry professionals
- To foster excellence in animal science educational programs through the periodic revision of standards for accreditation and to apply those standards in evaluation of the educational environment and effectiveness of animal science programs
- To recognize the diversity of animal science programs that in addition to production animal agriculture, may include care of companion animals, preservation of species (e.g. captive exotics) and management of laboratory animals
- Through the accreditation process, to assure students, employers, the public and other organizations that ASAS accredited programs have educational objectives and outcomes consistent with current professional standards for the field of animal science, and have adequate resources to accomplish these objectives

The standards set forth in this document describe the essential elements of a program in animal science to include these seven standards of accreditation:

1. Program mission and objectives
2. Program governance, administration and institutional support
3. Students

4. Program learning outcomes and curriculum
5. Faculty
6. Facilities, equipment and technology
7. Outreach and engagement with industry, public, institution

This accreditation provides latitude for an individual program to fully describe their unique initiatives, applications to educate students in animal science and variation in how their program is implemented and accomplishes their objectives.

ASAS recognizes the need for diversity and encourages an environment that represents and promotes communication and collaboration from representatives of different cultures, experiences and viewpoints. This includes students, faculty and external constituents.

It is explicitly not a goal of this program to assess the overall institution in detail, but instead relies upon the opinions of other accrediting bodies appropriate for such a task. To be eligible for this accreditation process the institution must have appropriate state, or federal legislation for its function and be accredited by its regional commission on accreditation.

This document defines the Accreditation Standards of Animal Science programs. These accreditation standards will be periodically reviewed by the Animal Science Council on Accreditation (ASCoA)

Standard 1: Program Mission and Objectives

Program Mission and Objectives

The program to be accredited must have a clearly defined mission that is supported by goals and objectives that promote understanding the program's purpose and values and providing standards by which progress may be measured:

- The mission statement shall address the reason for the program's existence and its contribution to its constituency.
- The program shall present a set of goals which support the mission and which, if attained, constitute progress toward accomplishing the mission.
- Each of the program's goals shall be supported by criteria that describe how the goals are achieved.
- The program shall be able to provide measurable objective metrics that demonstrate progress toward achieving the mission, goals and objectives.

Planning and Assessment Processes

Relevant and dynamic animal science programs must change and adapt over time. The program to be accredited must be able to articulate a process and demonstrate historical application (when appropriate) by which its mission and objectives can be, and have been, modified and updated. The following considerations should be evident in each revision:

- Identification of the constituencies and the needs of the constituencies that the program seeks to serve are compatible with the parent institution
- Demonstration of a process of obtaining feedback from the constituencies and how that information is utilized for continuous feedback and improvement of the program
- Description of the need to develop professionals in the field of animal science which equips them to meet with technical, social, environmental, cultural, economic and other needs of the constituency they serve
- Development of and support for standards of professional and ethical behavior for all individuals in the field of animal science
- Recognition of the diversity in use of animals for the benefit of society requires a multi-disciplinary approach to promote human and animal well-being

Program Disclosure

Transparency is essential for accredited programs to be successful and maintain relevancy. Accredited programs must maintain an active and ongoing effort to publish to the program's constituencies its mission, goals and objectives and accreditation status. Therefore, an accredited program must provide evidence of disclosure through promotional literature and media and include the following:

- Mission statement, goals and objectives
- Educational experiences offered to students
- Description of responsibility and biographical information for all faculty
- Description of facilities available for student use
- Accreditation status

- Student achievement

This information should be readily available and accurate in an easy to understand form. This information should also be easily accessible from the program's website.

In addition, access to the following demonstrates transparency, but disclosure through promotional material is not a requirement for accreditation. This type of information should be available from the parent institution, or upon request:

- Costs and opportunities for financial aid for undergraduate and graduate degree programs
- Student performance both prior to and following graduation

Standard 2: Program Governance, Administration and Institutional Support

This accreditation program is for a bachelor of science degree in Animal Science. The program seeking accreditation shall have the authority and resources to achieve its mission, goals, and objectives. Each animal science program shall be recognized as a discrete professional program with the resources, institutional support, and authority to enable achievement of the stated program mission, goals and objectives. The institution must provide support and leadership for the successful delivery of a high quality animal science program. This includes human and financial resources and support and use of institutional services.

Program Administration

The program must be administered by a person(s) recognized by and with equivalent title and authority as programs within comparable units in the institution. This will usually be the Department Head/Chair and/or departmental coordinator of academic programs. Evidence must be provided of sufficient administrative staff support for the efficient clerical needs to maintain and provide an environment in which program goals and student outcomes can be attained. **Teaching must be a highly recognized and supported priority for the unit.** Additional administrative requirements include:

- The program exists as a discrete and identifiable program within the institution.
- Student numbers within an Animal Science program must be appropriate to achieve requirements of the program's mission. Student enrollment must not exceed resource capacity monetarily or in faculty and support staff numbers. Appropriate faculty/staff-student ratio must be maintained for academic quality and student safety.
- The program administrator holds a faculty appointment in the program.
- The program administrator exercises effective leadership of and management functions for the program.
 - Where the program administrator is not the primary administrator for the academic unit, as in an animal science program within a multidisciplinary department or school, the animal science leader must have the authority to significantly influence the management of resources, including budget, faculty review, tenure and promotion outcomes, and the direction of the animal science program.

Institutional Support

The parent institution must provide adequate funding and other institutional support to allow the program to attract and retain highly qualified and diverse faculty, staff, and administrators. It must provide opportunities for faculty and staff professional development. It must also support the student-learning environment to ensure the quality and continuity of the program.

Program Support

- Funding is available to assist faculty and other instructional personnel with continued professional development.
- Funding is adequate for student support.
- Adequate faculty and staff support personnel are available to accomplish the program's mission and goals and to ensure program delivery, student recruitment, program assessment, and overall continuous improvement.
- Funding is available to cover expenses associated with facilities and staff to house and maintain animals used in the teaching program and/or costs associated with accessing and using animals maintained and owned by off-campus entities.
- Funding is available to cover ongoing costs associated with maintaining and upgrading infrastructure, equipment and appropriate technology on farms and in laboratories to provide real world insight to production and care of animals.

Supporting Programs

- The parent institution must provide strong, well-staffed student support programs. Courses and support programs must be readily accessible for the program's students. The institution must have adequate library facilities and holdings, electronic access to information, and related services.
- The parent institution, in collaboration with the program unit, must provide a physical environment that is adequate in size, safe, healthful, and conducive to learning. Outdoor laboratories and farms must be available.

Standard 3: Students

Students are the reason for an accreditation program and a program's commitment to student development and success must be well documented throughout the accreditation process. From recruitment through degree attainment, student knowledge and competency in disciplinary concepts, technical skills, leadership, communication and problem solving should be progressively advancing and documented.

Student Recruitment, Admissions, Transfers, and Retention

- Recruitment and admissions policies for the program must be well defined.
- The program must have a recruiting program in place.
- The program must show evidence of an effective retention program with policies that aid in retaining students enrolled in the major.

- Articulation agreements that impact the program must be provided.
- Institutional and program processes for the acceptance of transfer credits must be provided.

Teaching

- The program is responsible for delivering current, high academic quality content within this science-based, animal-oriented discipline. (See Standard 5 for description of faculty standards.)
- Faculty are to be evaluated on a scheduled basis to ensure quality teaching.
- The program is required to provide opportunities for experiential learning within the animal science field.

Advising

- Advising of students within an accredited Animal Science program must provide academic, career and professional development advising opportunities. Processes and personnel providing the advisement of students must be defined and identified.
- The program must document the support services provided to meet the needs and career goals of the student population.

Student Extracurricular/Experiential Experiences (Student Life)

- Extracurricular programs should be offered to provide opportunities for animal-oriented experiential (“hands-on”) learning.
- Co-curricular activities, e.g. clubs, teams, should be offered to provide guided learning and leadership opportunities.

Standard 4: Program Learning Outcomes and Curriculum

An accredited Animal Sciences Program is responsible for fulfilling the departmental, college, and institutional missions and purposes in educating enrolled students. The program administration works systematically and effectively to plan and develop, implement, evaluate and access, improve, and assure academic excellence in quality and integrity of their program. It is essential that an accredited Animal Science program is successfully positioned to train the next generation of professional animal scientists. The program learning outcomes and curriculum to accomplish this are defined below.

Program Learning Outcomes:

To assess the learning of students in accredited Animal Science programs, seven Program Learning Outcomes (PLO) are required. These PLOs are based on performance indicators to be developed by individual programs to assess student learning and development and assess levels of skills and knowledge. These outcomes define the knowledge, skills, and competencies a student should possess upon completion of an Animal Science program and which will prepare them to pursue careers in the animal science industries.

Criteria for student learning outcomes are each defined by one or more learning or skill levels of: understanding, applying, evaluating, implementing, identifying, integrating, communicating, and engaging. Student attainment of these outcomes are measured and assessed during the accreditation process using direct and indirect processes. These can include but are not limited to: examination of student works (artifacts), exams, interviews and other information provided by the program.

Program Learning Outcomes:

1. Demonstrate the ability to integrate knowledge of animal science disciplines: nutrition, reproduction, physiology, breeding, genetics, meat science, animal health, food safety, animal behavior and animal well-being for the improvement of animal production practices, products and services. This will require a curriculum with a strong foundation in mathematics and science including chemistry and biology.
2. Demonstrate the ability to evaluate and communicate the application of innovative technology and scientific knowledge and how it can benefit animal science and society.
3. Demonstrate the ability to implement diverse animal production systems to sustain economic and environmental resources in a socially responsible manner. This requires the ability to analyze and interpret data.
4. Demonstrate critical thinking to identify, evaluate and communicate global and contemporary issues impacting animal science and production animal agriculture.
5. Communicate the contributions of animals, animal products and animal services to society across multifaceted mediums.
6. Understand how laws and regulatory issues guide the professional and ethical use of animals in society.
7. Engage in experiential learning or hands-on experience in the animal sciences that promotes lifelong learning.

Curriculum

Curriculum requirements are expected to be met in concert with an institution's general education, college and program specific requirements. The curricula of accredited animal science programs may take different approaches in meeting the standards of accreditation.

- **Animal Science Specific Curriculum:** The Animal Science specific curriculum must include courses that upon successful completion will accomplish all of the Program Learning Outcomes (PLOs) defined in the preceding section. Specific courses to accomplish the PLOs are not defined, rather the curriculum in its entirety will be assessed against the PLOs. Programs will differ in how PLOs are met. Specific courses may be required to meet a set of PLO, while in other cases, that content may be part of a more comprehensive course. Courses required to meet specific PLOs may be taught within the home academic unit or may be provided by other units.

Program specific courses must develop increasingly in-depth understanding and abilities related to advanced concepts in the animal sciences. Courses that contribute to meeting each PLO must be identified.

The curriculum must provide diversity in course delivery experiences and conduct and include lectures, laboratories, discussions and experiences of application to the field.

- **General Education Curriculum:** General education subject areas are often provided outside the animal science unit. These courses must meet the institution's requirements while preparing the student for success in the animal science program. All programs must include mathematics, chemistry, biological sciences, social sciences, and humanities. Communication skills, oral and written, must be developed throughout the curriculum. Technological competency is required. Students must develop and demonstrate proficiency in digital efficiency.

A curriculum map identifying PLO with specific course offerings is required.

Syllabi

Current syllabi must be provided for all courses contributing to meeting the PLO's. Syllabi must include: educational objectives, subject matter and course content, assignments and evaluation methods.

Student Learning Evaluation and Assessment:

Periodic evaluation and assessment of the program's curriculum must be documented and the process for improving effectiveness and responding to changes in the industry must be provided. A program must use and document the process of course and curriculum assessment and evaluation in meeting PLOs and student success in achieving the PLOs. The evaluation and assessment should include: effectiveness of instructional methodologies, incorporation of current technologies, attainment of technical expertise of subject matter, student timelines to graduation and graduate entry into professional positions. External industry stakeholder input must be part of the curriculum evaluation and assessment process. Student input into the process is also required and alumni input is encouraged.

Standard 5: Faculty

Faculty are the core of the program and as such must be recognized, valued and supported by the institution. Teaching faculty are responsible for delivering high-quality instruction with current and evolving content. Collectively, faculty must possess appropriate professional credentials, possess disciplinary diversity and be sufficient in number to deliver the breadth and depth of subject matter defined in the Program Learning Outcomes. Teaching loads and scholarly contributions of faculty should be consistent with institutional requirements and standards and opportunities for professional development of instructional faculty are required.

Credentials:

The number of faculty required to deliver a successful program will vary among institutions and program size. All programs are required to meet the following:

- Sufficient instructional personnel with appropriate teaching loads must be identified to deliver the required core curriculum.
- Greater than 50% of the faculty teaching in the program must have PhDs in Animal Science related disciplines.
- The Animal Science Department (or program administration for Animal Science)of the institution must be the home department for 75% or more of the faculty teaching in the program. Faculty teaching in courses contributing to the PLOs for whom the Animal Science department is not their primary department must be appropriately credentialed by the department or institution to teach the assigned course(s). The program administration's credentialing process must be defined.
- The primary instructor of upper division core courses (Jr and Sr level) must be taught by faculty with PhDs in animal science related disciplines or appropriately credentialed by program administration as above.
- Lower division (Fr and Soph level) and elective courses may be taught by appropriately credentialed instructional personnel with MS degrees in Animal Science or related areas when documented expertise and knowledge are approved by program administration. In instances where the primary instructor's highest degree in Animal Science related disciplines is a BS degree, PhD faculty oversight and program administration approval is required.

Disciplinary Diversity:

Disciplinary diversity of professional credentials of the teaching faculty is essential to address breadth and depth of the program offered. The faculty roster must include documentation that disciplinary training and expertise within faculty exists for all Program Learning Outcome discipline areas.

Teaching Load, Scholarly Activity and Faculty Development,

- Teaching loads of faculty must be appropriate and in concert with institutional norms and account for other expectations (research, extension, service) of the faculty. Documentation of faculty teaching loads is required.
- Evidence of scholarly activity of all faculty teaching in the program is required.
- Evidence of and support from the institution for continuing education and professional development must be available to and used by faculty.
- Evidence of faculty engagement with industry is required.

Standard 6: Facilities, Equipment, and Technology

The program shall provide faculty, students, and staff access to facilities, equipment, libraries, and other resources necessary for supporting and achieving the program's mission and learning objectives.

Animal Facilities and Access

The program shall provide animals and appropriate animal facilities and laboratories as an integral part of the curriculum. These facilities must be safe, adequate in size and conducive to learning the required outcomes. The institution or private entities may own these facilities. Continuous-use facilities not owned by the institution should have instructional use agreements. Requirements include:

- Students must have sufficient access to animals and animal facilities and be trained in safe handling techniques that provide safety for handlers and the animals. The facilities must be sufficient to support the program learning outcomes.
- Institutionally owned facilities must meet Ag Guide recommendations (https://aaalac.org/about/Ag_Guide_3rd_ed.pdf) or the institution's Animal Care and Use committee requirements and be adequately maintained.
- Accommodations must be made when appropriate for students with disabilities at facilities that support program learning outcomes or alternatives be provided.

Technical Equipment and Information Systems

The program shall provide information systems and technical equipment needed to achieve its mission and objectives to students, faculty, and other instructional and administrative personnel. Requirements include:

- Students must have sufficient access to the Internet at livestock and laboratory facilities, relevant technical equipment, and computer equipment and software.
- The frequency of equipment and software maintenance, updating, and replacement must be sufficient.
- The hours of use of information systems and equipment are sufficient to serve faculty and students.

Libraries

The program shall provide library collections and other resources sufficient to support its mission and educational objectives and include:

- Collections adequate to support the program
- Courses integrate library's collection and on-line resources.
- Library hours of operation and online access convenient and adequate to serve the needs of faculty, staff, and students.

Office and Laboratory Facilities

The program shall provide designated, code-compliant, adequately maintained spaces to serve the requirements of the faculty, staff, and students to support program learning outcomes.

- Faculty, staff, and administration are provided with appropriate office space.
- Students are provided with adequate labs for hands-on learning in support of program learning outcomes.
- Facilities are adequately maintained and comply with the Americans with Disabilities Act (ADA), and applicable building and fire codes.

Standard 7. Outreach and Engagement with Industry, Public and Institution

Accredited programs must be relevant to serving the interests of the public including stakeholders in industry and alumni and be consistent with institutional goals, objectives and policies. To accomplish outreach and engagement, the program must be supported appropriately by the institution including the availability of cross-discipline learning and discovery. The program must document the ability to be responsive to changes occurring in the world around it by creating opportunities for students, staff and faculty to engage in the diverse industries associated with animal science.

Industry

Programs must engage with industry stakeholders across multiple levels including Administration, Faculty, and Students to ensure that they remain relevant to the industries that they serve.

- Administration.
Administrators (Department Head/Chair) of the program should have a forum that engages members of industry across a spectrum of businesses. This forum should review high level programming and provide inputs on the relevance of program outcomes to industry needs. There should be evidence of program evolution based on feedback from this forum.
- Faculty.
Teaching faculty must understand the connection of curricular content to underlying industry and scientific trends.
- Students
Students should be expected to complete experiential learning in an appropriate segment of industry. For example this could be work experience, internship, volunteer work, and research projects.

Public

- Programs should have in place opportunities to educate the public in the basics of animal science as an essential element of the educational process.
- Programs should be transparent to the public and invite public comment in areas of public interest and provide opportunities for the public to experience animal science programming on issues important to the public (e.g. open houses, seminars)
- All programs involving live animals must have the appropriate animal care oversight.

Institutional

- Programs should be engaged with the institution as part of the overall education program providing fundamental education in the non-animal science disciplines providing for a complete educational experience consistent with a 4-year degree.
- Programs should show evidence of cross department learning and discovery that advances Animal Science.
- Programs should have institution wide opportunities that engage students from within and outside of animal science to discuss multidisciplinary issues that are impactful to society.

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- Alumni engagement is an important source of resources and insight for an animal science program. Programs should access institutional alumni organizations connected to the program for feedback and insight.