Small Animal Science, Associate in Science

The Small Animal Science program is structured to provide students with an associate's degree transferable to four-year institutions. This program equips students with foundational and specialized knowledge in animal care, management, and utilization, covering the roles of animals in food production, companionship, work, and recreation. The program ensures graduates are prepared to engage with the increasing complexity of animal management and welfare issues, integrating humane and scientifically grounded practices.

The curriculum integrates the core biological and physiological sciences with specializations in animal science. Coursework begins with foundational studies in animal science, biology, chemistry, mathematics, and statistics, followed by advanced topics such as small animal physiology, genetics, nutrition, and animal ethics and welfare. Practical laboratory sessions allow students to develop hands-on skills, preparing them for either direct entry into animal-related careers or transfer to a four-year institution to pursue further study in animal science or pre-veterinary programs.

Graduates from this field have access to a variety of career paths in animal health, agricultural production, animal welfare, and veterinary and animal sciences. This program supports pathways into roles in research, farm and ranch management, consulting, and veterinary studies.

For additional information, please contact faculty advisor, Dr. Christopher Carbone at (609) 343-5676 or ccarbone@atlanticcape.edu, or department chair, John Stratton, at (609) 343-4981 or stratton@atlanticcape.edu.

Upon completion of this program students will be able to:

- Demonstrate comprehensive knowledge of animal body systems to assess and address animal health and maintain homeostasis;
- Design species-specific diets, apply nutritional principles across life stages, and use welfare frameworks to promote animal well-being, ethical management, and productivity;
- Explore sustainable agricultural practices and biosecurity measures, while adhering to regulatory and ethical standards for animal management, welfare, and safety;
- Apply reproductive technologies and perform routine diagnostic procedures to enhance reproductive efficiency, track health conditions, and support clinical decision-making;
- Synthesize knowledge from anatomy, physiology, nutrition, and welfare principles to develop solutions for real-world challenges, showcasing skills in problem-solving and critical thinking that align with industry standards and professional expectations.

(SMAS-Fall 2026)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL102	Composition II	3

Mathematics-Science-Technology

Course #	Title	Credits
BIOL109	General Biology I	4
CHEM110	General Chemistry I	4
MATH155	Calculus I	4

Social Science

Course #	Title	Credits
ECON110	Macroeconomics	3
	General Education Social Science Course (3 credits)	3

Humanities

Course #	Title	Credits
	Choose: ARTS103, ARTS108, ARTS109, ARTS115, DANC170, MUSC100 or THEA110 (3 credits)	3

General Education Elective

Students are strongly encouraged to meet with their faculty advisor before making a choice.

Course #	Title	Credits
	General Education Course (3 credits) - Recommendation: Students should consider taking CISM125 to meet the Technological Competency requirement.	3

Program Requirements

Course #	Title	Credits
BIOL110	General Biology II	4
CHEM111	General Chemistry II	4
CHEM210	Organic Chemistry I	4

Program Electives - Choose 18 credits from the following:

Course #	Title	Credits
BIOL107	Animal Ethics and Welfare	3
BIOL205	Genetics	4
BIOL250	Microbiology	4
BIOL260	Introduction to Animal Science	3
BIOL261	Small Animal Anatomy and Physiology	4
BIOL262	Animal Nutrition	3

Technological Competency Graduation Requirement

Is fulfilled with CISM125, CISM129, CISM132, testing or reviewed departmental portfolio.
CISM125 may be taken as a General Education Elective.

	Total Credits	60

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
BIOL109	General Biology I	4
CHEM110	General Chemistry I	4
ENGL101	Composition I	3
MATH155	Calculus I	4

Second Semester

Course #	Title	Credits
BIOL110	General Biology II	4
CHEM111	General Chemistry II	4
ECON110	Macroeconomics	3
ENGL102	Composition II	3
	General Education Social Science Course (3 credits)	3

Third Semester

Course #	Title	Credits
CHEM210	Organic Chemistry I	4
	Program Elective Course (3 credits)	3
	Program Elective Course (4 credits)	4
	Choose: ARTS103, ARTS108, ARTS109, ARTS115, DANC170, MUSC100 or THEA110 (3 credits)	3

Fourth Semester

Course #	Title	Credits
	Program Elective Course (3 credits)	3
	Program Elective Course (4 credits)	4
	Program Elective Course (4 credits)	4
	General Education Course (3 credits) - Recommendation: Students should consider taking CISM125 to meet the Technological Competency requirement.	3