

ANIMAL SCIENCE (BS)

Offered at: San Luis Obispo Campus

The Animal Science Department offers degree programs in both Animal and Dairy Science. Students learn principles of animal biology, husbandry, behavior, nutrition, and reproduction with molecular biology and other life sciences in a variety of species. These principles apply to farm animals, wildlife, laboratory animals, and companion animals. The curriculum is flexible, allowing each student to plan an individual curriculum aligned with their interests and career goals. This is a comprehensive hands-on program offering learn-by-doing opportunities to gain experience with a variety of animal species.

The program aims to train students to be problem-solvers, effective communicators, and leaders as they advance in their professional careers. Our graduates will understand their professional and ethical responsibilities as animal scientists. By embracing diversity, equity, and inclusivity our students will be able to adapt to changing societal attitudes and perceptions as they relate to human-animal interactions.

The Animal Science Department is supported by a variety of animal and production facilities for hands-on learning. There are opportunities for students to participate in faculty research using these facilities, as well as over 6,000 acres of grazing lands, conservation areas and habitats for native plants and animals.

In addition, the department offers a wide assortment of co-curricular activities including student clubs, competitive animal judging teams and intercollegiate dressage and equestrian teams. Students participate in organizing and conducting service meetings, seminars and field days sponsored by the department.

Program Learning Objectives

1. Implement problem-solving skills while working on issues related to the animal sciences.
2. Collaborate and practice leadership skills while working on teams in various animal science disciplines to achieve common goals.
3. Integrate and apply technical and conceptual knowledge in the principles of animal nutrition, reproduction, genetics and genomics, physiology, anatomy, behavior, health, welfare and ethics, working lands management and monitoring, and food processing and safety.
4. Relate ethical, social, and professional responsibilities as animal scientists to address challenges while embracing diversity, equity, inclusivity, and sustainability.
5. Communicate topics related to the animal sciences in an articulate and professional manner.

Degree Requirements and Curriculum

In addition to the program requirements listed on this page, students must also satisfy requirements outlined in more detail in the Minimum Requirements for Graduation (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/>) section of this catalog, including:

- 40 units of upper-division courses
- 2.0 GPA
- Graduation Writing Requirement (GWR)
- U.S. Cultural Pluralism (USCP)

Note: No Major, Support, or Concentration courses may be selected as credit/no credit. Only one General Education course may be selected as credit/no credit. In addition, no more than 12 units of cooperative or internship courses can count towards your degree requirements.

Code	Title	Units
MAJOR COURSES		
ASCI 1100	Introduction to the Animal Sciences	1
ASCI 1101	Principles of Animal Physiology	3
ASCI 1102	Animal Management Systems	3
ASCI 1103	Animal Science Laboratory	1
ASCI 2210 & ASCI 2211	Meat Science and Meat Science Laboratory	3
ASCI 2220	Animal Nutrition and Feeding	3
ASCI 2229	Anatomy and Physiology of Farm Animals	3
ASCI 3302	Animal Genetics	3
ASCI 3304	Animal Genomics	2
ASCI 3340	Animal Welfare and Ethics	3
ASCI 3351	Mechanisms of Hormone Action and Reproductive Physiology	3
ASCI 3363	Professional Development in the Animal Sciences	1

Senior Project

Select from the following:

2

ASCI 4477	Senior Project - Research Experience in Animal Science
ASCI 4478	Senior Project - Advanced Internship Experience in Animal Science
ASCI 4479	Senior Project - Current Issues in Animal Science

Enterprise Experience Electives

Select from the following:

3

ASCI 2001	Beef Cattle Enterprise
ASCI 2002	Broiler Production Enterprise
ASCI 2003	Bull Test Enterprise
ASCI 2004	Dairy Calving Enterprise
ASCI 2005	Dairy Fit and Show Enterprise
ASCI 2006	Dairy Herd Evaluation Enterprise
ASCI 2007	Dairy Products Evaluation Enterprise ¹
ASCI 2008	Equine Care Enterprise
ASCI 2009	Foaling Enterprise
ASCI 2010	Lambing Enterprise ¹
ASCI 2011	Performance Horse Development Enterprise
ASCI 2012	Reptile Husbandry Enterprise
ASCI 2013	Sausage Production Enterprise ¹
ASCI 2014	Swine Enterprise
ASCI 2015	Targeted Grazing Enterprise ¹
ASCI 2016	Veterinary Clinic Operations Enterprise
ASCI 2017	Livestock Show Enterprise ¹
ASCI 4001	Artificial Insemination of Beef Cattle Advanced Enterprise
ASCI 4002	Bull Test Management Advanced Enterprise
ASCI 4003	Bull Test Sale Implementation Advanced Enterprise
ASCI 4004	Equine Mustang Management Advanced Enterprise ¹
ASCI 4005	Ranch Management I Advanced Enterprise ¹
ASCI 4006	Ranch Management II Advanced Enterprise ¹
ASCI 4007	Horse and Mule Packing Advanced Enterprise ¹
ASCI 4008	Livestock Event Planning Advanced Enterprise ¹
ASCI 4009	Livestock Event Implementation Advanced Enterprise ¹
ASCI 4010	Livestock Judging Advanced Enterprise
ASCI 4011	Marine Mammal Health Advanced Enterprise
ASCI 4012	Performance Horse Production Advanced Enterprise
ASCI 4013	Equine Sale Event Planning Advanced Enterprise
ASCI 4014	Equine Sale Event Implementation Advanced Enterprise
ASCI 4015	Veterinary Community Service Advanced Enterprise

Animal Management Electives

Select from the following:

6

ASCI 2230	Beef and Dairy Cattle Management
ASCI 2231	Swine and Poultry Management
ASCI 2232	Small Ruminant and Rangeland Management
ASCI 2233	Companion Animal Management

Biochemistry/Chemistry

Select from the following: (Upper-Division 2/5) ²

3-4

ASCI 3319	Physiological Chemistry of Animals
CHEM 3350	Biochemistry: Fundamentals and Applications
CHEM 3352	Biochemistry

Nutrition

Select from the following:

3

ASCI 3346	Equine Nutrition	
ASCI 3350	Nonruminant Nutrition	
ASCI 3355	Ruminant Nutrition	
ASCI 4419	Animal Metabolism and Nutritional Modeling	
Physiology		
Select from the following:		3-4
ASCI 4403	Applied Biotechnology in Animal Science	
ASCI 4405	Domestic Livestock Endocrinology	
ASCI 4406	Animal Embryology and Assisted Reproduction	
ASCI 4438	Systemic Animal Physiology	
ASCI 4440	Immunology and Diseases of Animals	
ASCI 4455	Equine Reproduction	
DSCI 3321	Lactation Physiology	
DSCI 3330	Dairy Cattle Reproductive Management and Artificial Insemination	
Approved Electives		
Select any 3000-5000 level ASCI or DSCI courses ^{3,4}		12
SUPPORT COURSES		
BIO 1151	Life: Molecules and Cells (5B & 5C) ²	4
CHEM 1120	Fundamentals of Chemical Structure and Properties (5A) ²	4
CHEM 2240	Organic Chemistry: Fundamentals and Applications	4-5
or CHEM 2242	Organic Chemistry I	
MATH 1006	College Algebra (2) ²	3
STAT 1110	Applied Statistical Concepts and Methods	3
GENERAL EDUCATION (GE)		
(See GE program requirements below)		30
FREE ELECTIVES		
Free Electives ^{5,6}		8-11
Total Units		120

¹ Repeatable courses can only be used once for Major degree credit.

² Required in Major or Support; also satisfies General Education (GE) requirement.

³ If a course is taken to meet a Major or Support requirement, it cannot be double-counted as an Approved Elective.

⁴ A combined maximum of 3 units may count from ASCI 3339, ASCI 4001, ASCI 4002, ASCI 4003, ASCI 4004, ASCI 4005, ASCI 4006, ASCI 4007, ASCI 4008, ASCI 4009, ASCI 4010, ASCI 4011, ASCI 4012, ASCI 4013, ASCI 4014, and ASCI 4015 towards the Approved Electives requirement.

⁵ If a General Education (GE) course is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.

⁶ Students should consult faculty advisor before electing Credit/No Credit grading for any course. Courses elected for Credit/No Credit grading may not be recognized by post-graduate academic programs. If a 5000-level course is used to satisfy free elective requirements it cannot be used towards a post-graduate academic program.

General Education (GE) Requirements

- 43 units required, 13 of which are specified in Major and/or Support.
- If any of the remaining 30 Units is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.
- See the complete GE course listing (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/#generaleducationtext>).
- A grade of C- or better is required in one course in each of the following GE Areas: 1A (English Composition), 1B (Critical Thinking), 1C (Oral Communication), and 2 (Mathematics and Quantitative Reasoning).

Lower-Division General Education

Area 1	English Communication and Critical Thinking	
1A	Written Communication	3
1B	Critical Thinking	3

1C	Oral Communication	3
Area 2	Mathematics and Quantitative Reasoning	
2	Mathematics and Quantitative Reasoning (3 units in Support) ¹	0
Area 3	Arts and Humanities	
3A	Arts	3
3B	Humanities: Literature, Philosophy, Languages other than English	3
Area 4	Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.)	
4A	American Institutions (Title 5, Section 40404 Requirement)	3
4B	Social and Behavioral Sciences	3
Area 5	Physical and Life Sciences	
5A	Physical Sciences (3 units in Support) ¹	0
5B	Life Sciences (3 units in Support) ¹	0
5C	Laboratory (may be embedded in a 5A or 5B course) (1 units in Support) ¹	0
Area 6	Ethnic Studies	
6	Ethnic Studies	3
Upper-Division General Education		
Upper-Division 2/5	Mathematics and Quantitative Reasoning or Physical and Life Sciences (3 units in Major or Support) ¹	0
Upper-Division 3	Arts and Humanities	3
Upper-Division 4	Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.)	3
Total Units		30

¹ Required in Major or Support; also satisfies General Education (GE) requirement.

Coming soon