## BS DAIRY SCIENCE

## Program Learning Objectives

1. Technical competency within the disciplines of Dairy Science (Dairy Husbandry and Dairy Products Technology), with particular emphasis on the science, industry and practice.
2. Effective communication skills and leadership.
3. An advanced level of critical thinking skills and problem solving capability.
4. The capability of maintaining consistent, professional behavior and performance in a rapidly changing work environment.
5. Strong awareness of society as a whole and of agriculture's place in society.

## 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/ generalrequirementsbachelorsdegree/\#generaleducationtext) section of this catalog, including:

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

Note: No Major or Support courses may be selected as credit/no credit.

## MAJOR COURSES

| ASCI 101 | Introduction to the Animal Sciences | 2 |
| :---: | :---: | :---: |
| ASCI 220 | Introductory Animal Nutrition and Feeding | 4 |
| ASCI 340 | Animal Welfare and Ethics | 4 |
| ASCI 363 | Undergraduate Seminar | 2 |
| $\begin{aligned} & \text { DSCI } 102 \\ & \text { or ASCI } 339 \end{aligned}$ | Dairy Operations and Safety Internship in Animal Science | 2 |
| DSCI 202 | Dairy Promotion and Marketing | 4 |
| DSCI 229 | General Dairy Manufacturing | 4 |
| DSCI 230 | General Dairy Husbandry | 4 |
| DSCI 233 | Milk Processing and Inspection | 4 |
| DSCI 241 | Dairy Cattle Selection, Breeds, Fitting and Showing | 4 |
| DSCI 301 | Dairy Cattle Nutrition | 4 |
| DSCI 321 | Lactation Physiology | 4 |
| DSCI 330 | Artificial Insemination and Embryo Biotechnology | 4 |
| DSCI 333 | Dairy Animal Health, Safety and Applied Technology | 4 |
| DSCI 422 | Breeding and Genetics of Dairy Cattle | 4 |
| DSCI 432 | Advanced Dairy Herd Management | 4 |
| ASCI 477 | Senior Project - Research Experience in Animal Science | 3 |
| or ASCI 479 | Senior Project - Current Topics in Animal Science |  |

Upper Division Designated Electives
Select from the following:

| DSCI 401 | Physical and Chemical Properties of Dairy Products |  |
| :---: | :---: | :---: |
| DSCI 402 | Quality Assurance and Control of Dairy Products |  |
| DSCI 410 | Advanced Dairy Nutrition |  |
| DSCI 412 | Dairy Farm Consultation |  |
| DSCI 444 | Dairy Microbiology |  |
| SUPPORT COURSES |  |  |
| $\begin{aligned} & \text { BIO } 111 \\ & \quad \text { or BIO } 161 \end{aligned}$ | General Biology (B2 \& B3 $)^{1,2}$ Introduction to Cell and Molecular Biology | 4 |
| CHEM 127 | General Chemistry for Agriculture and Life Science I (B1 \& B3) | 4 |
| MATH 118 | Precalculus Algebra (B4) ${ }^{1,3}$ | 4 |
| MCRO 221 | Microbiology | 4 |
| STAT 218 | Applied Statistics for the Life Sciences (GE Electives) ${ }^{1}$ | 4 |
| Approved Electives |  |  |
| At least 7 units must be 300-400 level ${ }^{4}$ |  |  |
| Consult with academic advisor regarding career tracks ${ }^{5}$ |  |  |
| Select from the following: |  | 30 |
| AGB 212 | Agricultural Economics |  |
| AGB 214 | Agribusiness Financial Accounting |  |
| AGB 301 | Food and Fiber Marketing |  |
| AGB 310 | Agribusiness Credit and Finance |  |
| AGB 369 | Agricultural Personnel Management |  |
| AGC 102 | Orientation to Agricultural Communication \& Agricultural Science |  |
| AGC 205 | Agricultural Communications |  |
| AGC 404 | Foundations of Agricultural Leadership |  |
| ASCI 112 | Principles of Animal Science |  |
| ASCI 221 | Introduction to Beef Production |  |
| ASCI 226 | Livestock Evaluation |  |
| ASCI 229 | Anatomy and Physiology of Farm Animals |  |
| ASCI 290 | Animal Production and Management Enterprise |  |
| ASCI 302 | Animal Genetics |  |
| ASCI 304 | Animal Genomics |  |
| ASCI 310 | Technical Veterinary Skills |  |
| ASCI 311 | Advanced Beef Cattle System Management |  |
| ASCI 312 | Production Medicine |  |
| ASCI 319 | Physiological Chemistry of Animals |  |
| ASCI 351 | Reproductive Physiology |  |
| ASCI 366 | Veterinary Pharmacology |  |
| ASCI 405 | Domestic Livestock Endocrinology |  |
| ASCI 406 | Applied Animal Embryology and Assisted Reproduction |  |
| ASCI 407 | Assisted Reproduction Technologies of Gametes and Embryos Laboratory |  |
| ASCI 410 | Applied Animal Behavior Science |  |



## STAT 313 Applied Experimental Design and Regression Models

Any courses used in the following minors:
Agribusiness
Agricultural Communication
Agricultural Education
Agricultural Leadership
Biotechnology
Crop Science
Environmental Soil Science
Equine Science
Food Science
Meat Science and Processing
Poultry Management
Rangeland Resources
Spanish
Water Science

## GENERAL EDUCATION (GE)

(See GE program requirements below.) 56

## FREE ELECTIVES

Free Electives 5

## Total units

1 Required in Major or Support; also satisfies General Education (GE) requirement.
2 Students focusing on Dairy Foods should take BIO 161.
3 MATH 116 and MATH 117 substitute.
4 If a course is taken to meet a Major or Support requirement, it cannot be double-counted as an Approved Elective.
5 Consultation with advisor is recommended prior to selecting Approved Electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.

## General Education (GE) Requirements

- 72 units required, 16 of which are specified in Major and/or Support.
- If any of the remaining 56 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/ generalrequirementsbachelorsdegree/\#generaleducationtext).
- A grade of C - or better is required in one course in each of the following GE Areas: A1 (Oral Communication), A2 (Written Communication), A3 (Critical Thinking), and B4 (Mathematics/ Quantitative Reasoning).

| Area A | English Language Communication <br> and Critical Thinking |  |
| :--- | :--- | ---: |
| A1 | Oral Communication | 4 |
| A2 | Written Communication | 4 |
| A3 | Critical Thinking | 4 |
| Area B | Scientific Inquiry and Quantitative <br> Reasoning |  |
| B1 | Physical Science (4 units in Support) | 0 |
| B2 | ${\text { Life Science }\left(4 \text { units in Support) }{ }^{1}\right.}$ |  |


| B3 | One lab taken with either a B1 or B2 <br> course | Mathematics/Quantitative Reasoning <br> $(4$ units in Support) |
| :--- | :--- | ---: |
| B4 | Arts and Humanities |  |
| Upper-Division B |  |  |$\quad 4$

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

