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 (http://catalog.calpoly.edu/generaldemandsbachelorsdegree/#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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>DSCI 100</td>
<td>Enterprise Project</td>
<td>2</td>
</tr>
<tr>
<td>or DSCI 339</td>
<td>Internship in Dairy Science</td>
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<tr>
<td>DSCI 123</td>
<td>Dairy Science Orientation</td>
<td>1-2</td>
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<tr>
<td>or ASCI 101</td>
<td>Introduction to the Animal Sciences</td>
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<tr>
<td>DSCI 201</td>
<td>Introduction to Dairy Nutrition and Feed Ingredients</td>
<td>4</td>
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<tr>
<td>or ASCI 220</td>
<td>Introductory Animal Nutrition and Feeding</td>
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<tr>
<td>DSCI 223</td>
<td>Frozen Dairy Foods</td>
<td>4</td>
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<tr>
<td>or DSCI 241</td>
<td>Dairy Cattle Selection, Breeds, Fitting and Showing</td>
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<tr>
<td>DSCI 230</td>
<td>General Dairy Husbandry</td>
<td>4</td>
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<tr>
<td>DSCI 231</td>
<td>General Dairy Manufacturing</td>
<td>4</td>
</tr>
<tr>
<td>DSCI 233</td>
<td>Milk Processing and Inspection</td>
<td>4</td>
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<tr>
<td>DSCI 234</td>
<td>Dairy Foods Evaluation</td>
<td>2</td>
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<tr>
<td>DSCI 301</td>
<td>Dairy Cattle Nutrition</td>
<td>4</td>
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<tr>
<td>or DSCI 401</td>
<td>Physical and Chemical Properties of Dairy Products</td>
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<tr>
<td>DSCI 321</td>
<td>Lactation Physiology</td>
<td>4</td>
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<tr>
<td>or DSCI 444</td>
<td>Dairy Microbiology</td>
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<tr>
<td>DSCI 330</td>
<td>Artificial Insemination and Embryo Biotechnology</td>
<td>4</td>
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<tr>
<td>or DSCI 434</td>
<td>Cheese and Fermented Dairy Foods</td>
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<tr>
<td>DSCI 333</td>
<td>Dairy Animal Health, Safety and Applied Technology</td>
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<tr>
<td>or DSCI 402</td>
<td>Quality Assurance and Control of Dairy Products</td>
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<tr>
<td>DSCI 422</td>
<td>Breeding and Genetics of Dairy Cattle</td>
<td>4</td>
</tr>
<tr>
<td>or DSCI 435</td>
<td>Concentration/Fractionation and Butter Technology</td>
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<tr>
<td>DSCI 432</td>
<td>Advanced Dairy Herd Management</td>
<td>4</td>
</tr>
<tr>
<td>or DSCI 433</td>
<td>Dairy Plant Management and Equipment</td>
<td></td>
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</table>

SUPPORT COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSCI 461</td>
<td>Senior Project</td>
<td>3</td>
</tr>
<tr>
<td>or DSCI 463</td>
<td>Undergraduate Seminar</td>
<td>2</td>
</tr>
</tbody>
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Approved electives

At least 19 units must be 300-400 level
Consult with academic advisor regarding career tracks
Select from the following:

- AEPS 150 Forage Crops
- AEPS 230 Environmental Horticulture
- AEPS 250 California Fruit Growing
- AEPS 260 Introduction to Vegetable Science
- AGB 212 Agricultural Economics
- AGB 214 Agribusiness Financial Accounting
- AGB 301 Food and Fiber Marketing
- AGB 310 Agribusiness Credit and Finance
- AGED 102 Introduction to Agricultural Education
- AGED 330 FFA and Supervised Agriculture Programs
- AGED 404 Agricultural Leadership
- ASCI 112 Principles of Animal Science
- ASCI 211 Meat Science
- ASCI 221 Introduction to Beef Production
- ASCI 226 Livestock Evaluation
- ASCI 229 Anatomy and Physiology of Farm Animals
- ASCI 304 Animal Genomics
- ASCI 310 Technical Veterinary Skills
- ASCI 311 Advanced Beef Cattle System Management
- ASCI 312 Production Medicine
- ASCI 351 Reproductive Physiology
- ASCI 366 Veterinary Pharmacology
- ASCI 405 Domestic Livestock Endocrinology
- ASCI 420 Animal Metabolism and Nutrition
- ASCI 438 Systemic Animal Physiology
- ASCI 440 Immunology and Diseases of Animals
- BIO 162 Introduction to Organismal Form and Function
- BIO 303 Survey of Genetics
- BRAE 121 Agricultural Mechanics
- BRAE 141 Agricultural Machinery Safety
- BUS 212 Financial Accounting for Nonbusiness Majors
- CHEM 128 General Chemistry for Agriculture and Life Science II
- CHEM 129 General Chemistry for Agriculture and Life Science III
- CHEM 216 Organic Chemistry I
- CHEM 217 Organic Chemistry II

Last updated: 01/29/16
CHEM 312  Survey of Organic Chemistry
CHEM 313  Survey of Biochemistry and Biotechnology
CHEM 371  Biochemical Principles
COMS 301  Business and Professional Communication

Any DSCI course
FASN 125  Introduction to Food Science
FASN 230  Elements of Food Processing
FASN 275  Elements of Food Safety
FASN 330  Introduction to Principles of Food Engineering
FASN 335  Food Quality Assurance
FASN 370  Food Plant Sanitation and Prerequisite Programs
JOUR 203  News Reporting and Writing
JOUR 205  Agricultural Communications
MCIFO 342  Public Health Microbiology
MCIFO 421  Food Microbiology
NR 141  Introduction to Forest Ecosystem Management
PHYS 121  College Physics I
PHYS 122  College Physics II
STAT 313  Applied Experimental Design and Regression Models

Any courses used in the following minors:
Agribusiness
Agricultural Communication
Crop Science
Environmental Soil Science
Equine Science
Food Science
Poultry Management

GENERAL EDUCATION (GE)
(See GE program requirements below.)
FREE ELECTIVES
Free Electives

Total units

1  Required in Support; also satisfies GE.
2  MATH 116 and MATH 117 substitute.
3  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, 12 of which are specified in Major and/or Support.
• See the complete GE course listing (http://catalog.calpoly.edu/generalrequirementsbachelorsdegree/#generaleducationtext).
• Minimum of 12 units required at the 300 level.

Area A  Communication
A1  Expository Writing  4
A2  Oral Communication  4
A3  Reasoning, Argumentation and Writing  4

Area B  Science and Mathematics
B1  Mathematics/Statistics (4 units in Support plus 4 units in GE)  4

Area C  Arts and Humanities
C1  Literature  4
C2  Philosophy  4
C3  Fine/Performing Arts  4
C4  Upper-division elective  4
Area C elective (Choose one course from C1-C5)  4

Area D/E  Society and the Individual
D1  The American Experience (Title 5, Section 40404 requirement)  4
D2  Political Economy  4
D3  Comparative Social Institutions  4
D4  Self Development (CSU Area E)  4
D5  Upper-division elective  4

Area F  Technology
F  Upper-division elective  4

Total units  60

1  Required in Support; also satisfies GE