

B.S. Natural Sciences (ANS) Dairy Science Major (247)

- This guide to course selection and sequence is designed to assist students with forward planning. This is only one of many possible sequences depending on students' individual interests and talents. This is not an official listing of degree requirements; those are listed on the corresponding curriculum sheet.

Abbreviations:

AAE – Agricultural and Applied Economics	P – Prerequisites
BMOLCHEM – Biomolecular Chemistry	F – Fall Semester
AHABS – Animal Health & Biomedical Sci.	S – Spring Semester
BSE – Biological Systems Engineering	Su – Summer
DS – Dairy Science	

<u>Credits</u>	<u>Sem</u>	<u>Courses</u>
Semester 1		
3-5	F/S	Math 112 [Algebra] or 114 [Algebra & Trig] [P: Math placement scores]
OR	F/S	Chem. 103 or 109 – General Chemistry [P: Math 112 or 114 before Chem.]
4	F	Dairy Sci. 101 – Livestock Production
3	F/S	Written communications/ Communications A [P: Placement scores]
3-4	F/S	Humanities elective or Foreign language [P: Placement scores]
13-16		Total
Semester 2		
4-5	F/S	Chem. 103/109 or 104 – General Chemistry [P for Chem. 104: Chem. 103]
4-5	F/S	Chem. 327 – Analytical Chemistry [P: Chem. 104 or 109] or Math 210, 211 or 221 – Calculus [P: Math placement scores]
3	S	Elective, e.g., Dairy Sci, 205 ¹ -Dairy Cattle Selection
3	F/S	Ethnic studies/ Humanities/ International studies/ Social studies elective
14-16		Total
Semester 3		
1	F	Dairy Sci. 272 ¹ – Pre-Capstone Seminar
4	F/S	Math 210, 211 or 221, or BMOLCHEM 314
3	F/S	AAE 215 – Introduction to Agricultural and Applied Economics or Elective
3	F; F/S	Genetics 160 or 466- Heredity or General Genetics
5	F/S	Zoology 151 – Intro. Biology
3	F/S	Ethnic studies/Humanities/Social studies electives
14-16		Total
Semester 4		
1	S	Dairy Sci 375 ¹ -- Special Topics
3	F/S	Chem. 343 – Organic Chemistry ² [P: Chem. 104 or 109]
5	F/S	Zoology 152 – Intro. Biology
2	S	Dairy Sci. 302 ¹ – Dairy Cattle Husbandry
3	F/S	Spoken communications/ Communications B
3	F/S	Statistics 371 – Applied Statistics for Life Sciences [P: Math 114]
16-18		Total
Summer		
1	Su	Elective, e.g., Dairy Sci 375 Mexico Study Tour
Semester 5		
3	F	Dairy Sci. 434 – Reproductive Physiology [P: Jr. st., DS 101 or Zool. 101]
4	F/S	Chem. 344 & 345 – Organic Chemistry ² [P: Chem. 343]
6-9	F/S	Ethnic studies/ Humanities/ International studies/ Social studies elective
13-16		Total

**B.S. Natural Sciences (ANS)
Dairy Science Major (247)**

<u>Credits</u>	<u>Sem</u>	<u>Courses</u>
Semester 6		
3	F/S	Biochemistry 501 – Intro. Biochemistry [P: Chem. 341 or 343]
3	S	Dairy Sci. 311 – Comparative Animal Nutrition [P: Bmolchem 314 or Chem 341 or 343]
1	S	Dairy Sci. 313 – Animal Feeds and Diet Formulation [P: DS 311]
2	S	Dairy Sci. 361–Intro to Animal and Veterinary Genetics [P: statistics & genetics]
2	S	Dairy Sci. 362 or 363-Vet Genetics or Animal Breeding [P: DS361]
3	S	Dairy Sci. 433 – Dairy Herd Management [P: Dairy Sci. 101]
3	F/S	Ethnic studies/ Humanities/ International studies/ Social studies elective
17		Total
Summer		
1-3	F/S/Su	Dairy Sci. 399 – Internship in any CALS Department [P: soph., junior, or senior standing]
Semester 7		
2	F	Dairy Sci. 305 – Lactation [P: Biochem 501 or Bmolchem 314]
2	F	Dairy Sci. 414 ¹ – Ruminant Nutrition [P: DS 311 & 313]
4-5	F/S	Physics 103 or 201 or 207 – General Physics [P: Math 114, 211 or 221]
1	F	Dairy Sci 690 – Proseminar [P: Sr. standing]
5-6		Electives e.g. Dairy Sci 699
14-16		Total
Semester 8		
4	S	Animal Sci. 301 – Animal Physiology [P: Jr. Standing and Zool 101]
2	S	Dairy Sci. 468 ¹ – Environmental Management of Livestock Operations
3	S	Dairy Sci. 535 – Dairy Management Practicum – [P: DS361, 433, 434]
4-5	F/S	Physics 104, 202 or 208 – General Physics [P: Physics 103, 201 or 207]
3		Electives e.g. Dairy Sci 699
16.17		Total

Footnote:

¹Recommended elective, not a required course, but may meet a general requirement

² Students should choose Chem 341 & 342 or Chem 343, 344, & 345 in consultation with advisor

Recommended electives

<u>Credits</u>	<u>Sem</u>	<u>Courses</u>
4	F	Agronomy 100, Principles and Practices of Crop Production
3	F	Agronomy 302, Forage Management and Utilization [P: Jr., Agron. 100]
3	F	Biochem. 510 – Biochemical Principles of Nutrition [P: Biochem. 501]
2	S	Biomolecular Chem. 504 – Human Biochem Lab [P: Biochem 501 or Biomolecular Chem. 503]
3	S	AAE 320 – Farming Systems Management [P: AAE 215]
2	S	Dairy Sci. 205 – Dairy Cattle Selection
1-5	F/S	Dairy Sci. 299 – Independent Study
3	F	Dairy Sci. 370 – Livstck Prod. & Health in Agric. Develpmnt [P: DS 101]
1	S	Dairy Sci. 375 – Agr in Emerging Economics: Dairying in Mexico Seminar
2	Su	Dairy Sci.375 – Mexico Study Tour [P: DS 375 Spring Seminar]
2	S	Dairy Sci. 468 Evnvironmental Impact of Livestock Operations
1-5	F/S	Dairy Sci. 699 – Special Problems
5	F/S	Microbiology 101 & 102 – General Microbiology & Lab [P: Chem 103]
2	F/S	Med Micro 341 - Immunology
3	S	Zoology 350 – Parasitology [Intro. Biology]
3	F	Zoology 570 – Cell Biology [P: Chem 104; Intro Biol.]