

Animal Science (BS): Industry Concentration

The degree of Bachelor of Science in Animal Science may be obtained by selecting one of three concentrations offered by the Department of Animal Science in the College of Agriculture and Life Sciences: Veterinary Bioscience, Science, and Industry.

The Industry concentration is designed for students who are more interested in the business or production aspects of animal science. It offers flexibility in completing Animal Science courses with business, marketing, economics, and applied science coursework. There are many opportunities to gain undergraduate research experience with an Animal Science faculty member, to participate in one of the animal-related clubs, and to engage globally by participating in one of our Animal Science Study Abroad experiences.

Accelerated Graduate Opportunities

Advanced undergraduates have the opportunity to complete the **Accelerated Bachelor's/Master's degrees**, which allows students to earn both the BS and the Master's of Animal Science degrees within five years. See listing of graduate degrees offered in the Graduate School (<https://grad.ncsu.edu/>).

For more information about our program, visit our website (<https://cals.ncsu.edu/animal-science/students/undergraduate/#bachelor-of-science>).

Contact

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Plan Requirements

Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.

Code	Title	Hours
Orientation		
ALS 103	First-year Success in Agriculture and Life Sciences	1
or ALS 303	Transfer Success in Agriculture and Life Sciences	
Communication		
Select one of the following:		3
COM 110	Public Speaking	

COM 112	Interpersonal Communication	
COM 211	Argumentation and Advocacy	
Mathematical & Natural Sciences		
MA 107	Precalculus I ¹	3
ST 311	Introduction to Statistics	3
or ST 350	Economics and Business Statistics	
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4
BIO 183	Introductory Biology: Cellular and Molecular Biology	4
CH 101	Chemistry - A Molecular Science ¹	3
CH 102	General Chemistry Laboratory	1
ANS 215	Agricultural Genetics	3
or GN 311	Principles of Genetics	
Major Requirements		
ANS 150	Introduction to Animal Science ¹	3
ANS 151	Introduction to Animal Science Lab	1
ANS 205	Physiology of Domestic Animals	3
ANS 206	Anatomy of Domestic Animals Lab	1
ANS 220	Reproductive Physiology	4
& ANS 221	and Reproductive Physiology Lab	
ANS 230	Animal Nutrition	4
& ANS 231	and Animal Nutrition Lab	
Select two of the following Animal Management courses:		6
ANS 400	Companion Animal Management	
ANS 402	Beef Cattle Management	
ANS 403	Swine Management	
ANS 404	Dairy Cattle Management	
ANS 407	Livestock Grazing Management	
ANS 408	Small Ruminant Management	
ANS 410	Equine Breeding Farm Management	
ANS 411	Management of Growing and Performance Horses	
Animal Science Discipline Elective (p. 2)		3
Animal Science Electives (p. 2)		5
Select one of the following Economics Courses:		3
ARE 201	Introduction to Agricultural & Resource Economics	
ARE 201A	Introduction to Agricultural & Resource Economics	
EC 201	Principles of Microeconomics	
EC 202	Principles of Macroeconomics	
EC 205	Fundamentals of Economics	
Industry Option Requirements		
Select one of the following:		3
MA 114	Introduction to Finite Mathematics with Applications	
MA 121	Elements of Calculus	
MA 131	Calculus for Life and Management Sciences A	
Select one of the following:		4
CH 221	Organic Chemistry I	
& CH 222	and Organic Chemistry I Lab	
CH 220	Introductory Organic Chemistry	
& CH 222	and Organic Chemistry I Lab	
PY 131	Conceptual Physics	4
or PY 211	College Physics I	

Select one of the following BUS Management or Marketing Elective Courses: 3

ARE 303	Farm Management	
ARE 304	Agribusiness Management	
ARE 311	Agricultural Markets	
ARE 312	Agribusiness Marketing	

Economics or BUS Electives (p. 3) 6

GEP Courses

ENG 101 Academic Writing and Research ¹ 4

GEP Humanities (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/>) ³ 6

GEP Social Sciences (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/>) 3

GEP Health and Exercise Studies (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/>) 2

GEP Interdisciplinary Perspectives (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/>) ³ 5

GEP Elective (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/>) 3

GEP Global Knowledge (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/>) (verify requirement)

GEP Foundations of American Democracy (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-fad/>) (verify requirement)

World Language Proficiency (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/world-language-proficiency/>) (verify requirement)

CALS Group A, B, or C

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Courses for the Minor in Agricultural Business Management fulfill this requirement.

Free Electives

Free Electives (12 Hr S/U Lmt) ^{2,3} 8

Total Hours 120

¹ A grade of C- or higher is required.

² Students should consult their academic advisors to determine which courses fill this requirement.

³ Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free electives.

Animal Science Discipline Elective

Code	Title	Hours
ANS 415	Comparative Nutrition	3
ANS 425	Feed Manufacturing Technology	3
ANS 435	Stress Physiology in Animals	3
ANS 437	Precision Livestock Farming Systems	3
ANS 439	Comparative Animal Exercise Physiology	3
ANS 440	Animal Genetic Improvement	3
ANS 452	Comparative Reproductive Physiology and Biotechnology	3

ANS 453	Physiology and Genetics of Growth and Development	3
ANS 454	Lactation, Milk and Nutrition	3
ANS 515	Comparative Nutrition	3
ANS 525	Feed Manufacturing Technology	3
ANS 540	Animal Genetic Improvement	3
ANS 550	Applied Ruminant Nutrition	3
ANS 552	Comparative Reproductive Physiology and Biotechnology	3
ANS 553	Physiology and Genetics of Growth and Development	3
ANS 554	Lactation, Milk and Nutrition	3
ANS 561	Equine Nutrition	3
ANS 571	Regulation of Metabolism	3
ANS 590	Topical Problems in Animal Science	1-3
BCH 571	Regulation of Metabolism	3
FM 425	Feed Manufacturing Technology	3
FM 525	Feed Manufacturing Technology	3
NTR 415	Comparative Nutrition	3
NTR 419	Human Nutrition and Chronic Disease	3
NTR 425	Feed Manufacturing Technology	3
NTR 454	Lactation, Milk and Nutrition	3
NTR 515	Comparative Nutrition	3
NTR 525	Feed Manufacturing Technology	3
NTR 550	Applied Ruminant Nutrition	3
NTR 561	Equine Nutrition	3
PHY 452		3
PHY 552	Comparative Reproductive Physiology and Biotechnology	3
PO 415	Comparative Nutrition	3
PO 425	Feed Manufacturing Technology	3
PO 515	Comparative Nutrition	3
PO 525	Feed Manufacturing Technology	3
VMP 420	Disease of Farm Animals	3

Animal Science Electives

Code	Title	Hours
ANS 243A	Meat Safety and Quality Systems	3
Animal Science Electives		
VMP 420	Disease of Farm Animals	3
Any ANS Courses Not Planned		
AEE 208	Agricultural Biotechnology: Issues and Implications	3
ANS 105	Introduction to Companion Animal Science	3
ANS 110	Introduction to Equine Science	3
ANS 150	Introduction to Animal Science	3
ANS 151	Introduction to Animal Science Lab	1
ANS 201	Techniques of Animal Care	2
ANS 205	Physiology of Domestic Animals	3
ANS 206	Anatomy of Domestic Animals Lab	1
ANS 208	Agricultural Biotechnology: Issues and Implications	3
ANS 215	Agricultural Genetics	3
ANS 220	Reproductive Physiology	3
ANS 221	Reproductive Physiology Lab	1

ANS 230	Animal Nutrition	3
ANS 231	Animal Nutrition Lab	1
ANS 240	Livestock Merchandising	3
ANS 240A	Livestock Merchandising	3
ANS 241	Introduction to Meat and Poultry Processing	3
ANS 241A	Introduction to Meat and Poultry Processing	3
ANS 242	Value Added Meat and Poultry Processing	3
ANS 242A	Value Added Meat and Poultry Processing	3
ANS 243	Meat Safety and Quality Systems	3
ANS 260	Basic Swine Science	2
ANS 261	Swine Health and Biosecurity	1
ANS 262	Swine Breeding and Gestation Management	1
ANS 263	Farrowing Management	1
ANS 264	Swine Nursery and Finishing Management	1
ANS 265	Contemporary Issues in the Swine Industry	1
ANS 266	Swine Environment Management	1
ANS 267	Swine Manure and Nutrient Management	1
ANS 268	Employee Management for the Swine Industry	1
ANS 269	Internship in the Swine Industry	1
ANS 270	Pork Export Markets from a Swine Production Perspective	1
ANS 271	Swine Nutrition	1
ANS 281	Professional Development of PreVeterinary Track Students	1
ANS 290	Professional Development for Animal Science Careers	2
ANS 303	Principles of Equine Evaluation	2
ANS 304	Dairy Cattle Evaluation	2
ANS 309	Livestock Evaluation	3
ANS 322	Muscle Foods and Eggs	3
ANS 324	Milk and Dairy Products	3
ANS 330	Laboratory Animal Science	3
ANS 395	Animal Science Study Abroad	1-6
ANS 400	Companion Animal Management	3
ANS 402	Beef Cattle Management	3
ANS 403	Swine Management	3
ANS 404	Dairy Cattle Management	3
ANS 408	Small Ruminant Management	3
ANS 410	Equine Breeding Farm Management	3
ANS 411	Management of Growing and Performance Horses	3
ANS 415	Comparative Nutrition	3
ANS 425	Feed Manufacturing Technology	3
ANS 440	Animal Genetic Improvement	3
ANS 452	Comparative Reproductive Physiology and Biotechnology	3
ANS 453	Physiology and Genetics of Growth and Development	3
ANS 454	Lactation, Milk and Nutrition	3
ANS 495	Special Topics in Animal Science	1-3
ANS 515	Comparative Nutrition	3
ANS 525	Feed Manufacturing Technology	3
ANS 540	Animal Genetic Improvement	3
ANS 550	Applied Ruminant Nutrition	3

ANS 552	Comparative Reproductive Physiology and Biotechnology	3
ANS 553	Physiology and Genetics of Growth and Development	3
ANS 554	Lactation, Milk and Nutrition	3
ANS 561	Equine Nutrition	3
ANS 571	Regulation of Metabolism	3
ANS 590	Topical Problems in Animal Science	1-3
BCH 571	Regulation of Metabolism	3
FM 425	Feed Manufacturing Technology	3
FM 525	Feed Manufacturing Technology	3
FS 322	Muscle Foods and Eggs	3
FS 324	Milk and Dairy Products	3
FS 435	Food Safety Management Systems	3
FS 535	Food Safety Management Systems	3
HS 215	Agricultural Genetics	3
NTR 415	Comparative Nutrition	3
NTR 419	Human Nutrition and Chronic Disease	3
NTR 425	Feed Manufacturing Technology	3
NTR 454	Lactation, Milk and Nutrition	3
NTR 515	Comparative Nutrition	3
NTR 525	Feed Manufacturing Technology	3
NTR 550	Applied Ruminant Nutrition	3
NTR 561	Equine Nutrition	3
PB 208	Agricultural Biotechnology: Issues and Implications	3
PHY 452		3
PHY 552	Comparative Reproductive Physiology and Biotechnology	3
PO 322	Muscle Foods and Eggs	3
PO 415	Comparative Nutrition	3
PO 425	Feed Manufacturing Technology	3
PO 515	Comparative Nutrition	3
PO 525	Feed Manufacturing Technology	3

Economics or BUS Electives

Code	Title	Hours
ACC 210	Concepts of Financial Reporting	3
ACC 220	Introduction to Managerial Accounting	3
ACC 280	Survey of Financial and Managerial Accounting	3
ARE 215	Small Business Accounting	3
ARE 303	Farm Management	3
ARE 304	Agribusiness Management	3
ARE 306	Agricultural Law	3
ARE 309	Environmental Law & Economic Policy	3
ARE 311	Agricultural Markets	3
ARE 312	Agribusiness Marketing	3
ARE 321	Agricultural Financial Management	3
ARE 332	Human Resource Management for Agribusiness	3
BUS 320	Financial Management	3
BUS 360	Marketing Methods	3
MIE 310	Introduction to Entrepreneurship	3
MIE 330	Managing People	3

CALS Group A, B, or C

Code	Title	Hours
Group A - Biological Sciences		
AEC 360	Ecology	4
AEC 420	Introduction to Fisheries Science	3
AEC 423	Introduction to Fisheries Sciences Laboratory	1
AEE 208	Agricultural Biotechnology: Issues and Implications	3
ANS 105	Introduction to Companion Animal Science	3
ANS 110	Introduction to Equine Science	3
ANS 150	Introduction to Animal Science	3
ANS 151	Introduction to Animal Science Lab	1
ANS 205	Physiology of Domestic Animals	3
ANS 206	Anatomy of Domestic Animals Lab	1
ANS 208	Agricultural Biotechnology: Issues and Implications	3
ANS 215	Agricultural Genetics	3
ANS 220	Reproductive Physiology	3
ANS 221	Reproductive Physiology Lab	1
ANS 230	Animal Nutrition	3
ANS 231	Animal Nutrition Lab	1
ANS 281	Professional Development of PreVeterinary Track Students	1
ANS 290	Professional Development for Animal Science Careers	2
ANS 395	Animal Science Study Abroad	1-6
ANS 435	Stress Physiology in Animals	3
ANS 437	Precision Livestock Farming Systems	3
ANS 439	Comparative Animal Exercise Physiology	3
ANS 415	Comparative Nutrition	3
ANS 452	Comparative Reproductive Physiology and Biotechnology	3
ANS 453	Physiology and Genetics of Growth and Development	3
ANS 454	Lactation, Milk and Nutrition	3
ANS 515	Comparative Nutrition	3
ANS 552	Comparative Reproductive Physiology and Biotechnology	3
ANS 553	Physiology and Genetics of Growth and Development	3
ANS 554	Lactation, Milk and Nutrition	3
BCH 101	Introduction to Microbiology and Biochemistry Laboratory Practices	3
BCH 220	Role of Biotechnology in Society	3
BCH 351	General Biochemistry	3
BCH 451	Principles of Biochemistry	4
BCH 452	Introductory Biochemistry Laboratory	2
BCH 453	Biochemistry of Gene Expression	3
BCH 454	Advanced Biochemistry Laboratory	4
BCH 455	Proteins and Molecular Mechanisms	3
BCH 553	Biochemistry of Gene Expression	3
BCH 555	Proteins and Molecular Mechanisms	3
BEC 463	Fermentation of Recombinant Microorganisms	2
BEC 563	Fermentation of Recombinant Microorganisms	2

BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4
BIO 267	Research in the Life Sciences I: Research Skills	3
BIO 414	Cell Biology	3
BIO 434	Hormones and Behavior	3
BIO 440	The Human Animal: An Evolutionary Perspective	3
BIT 410	Manipulation of Recombinant DNA	4
BIT 463	Fermentation of Recombinant Microorganisms	2
BIT 464	Protein Purification	2
BIT 466	Animal Cell Culture Techniques	2
BIT 467	PCR and DNA Fingerprinting	2
BIT 476	Applied Bioinformatics	2
BIT 481	Plant Tissue Culture and Transformation	2
BIT 501	Ethical Issues in Biotechnology	1
BIT 563	Fermentation of Recombinant Microorganisms	2
BIT 564	Protein Purification	2
BIT 566	Animal Cell Culture Techniques	2
BIT 567	PCR and DNA Fingerprinting	2
CHE 463	Fermentation of Recombinant Microorganisms	2
CHE 563	Fermentation of Recombinant Microorganisms	2
ENT 201	Insects and People	3
ENT 207	Insects and Human Disease	3
ENT 402	Forest Entomology	3
ENT 425	General Entomology	3
FOR 402	Forest Entomology	3
FS 231	Principles of Food and Bioprocess Engineering	4
FS 301	Introduction to Human Nutrition	3
FS 401	Advanced Nutrition and Metabolism	3
FS 402	Chemistry of Food and Bioprocessed Materials	4
FS 403	Analytical Techniques in Food & Bioprocessing Science	4
FS 405	Food Microbiology	3
FS 406	Food Microbiology Lab	1
FS 501	Advanced Nutrition and Metabolism	3
FS 502	Chemistry of Food and Bioprocessed Materials	4
FS 505	Food Microbiology	3
FS 506	Food Microbiology Lab	1
FW 313	Mountain Wildlife Ecology and Management	1
FW 353	Wildlife Management	3
FW 403	Urban Wildlife Management	3
FW 404	Wildlife Habitat Management	3
FW 453	Principles of Wildlife Science	4
HS 215	Agricultural Genetics	3
MB 101	Introduction to Microbiology and Biochemistry Laboratory Practices	3
MB 405	Food Microbiology	3
MB 406	Food Microbiology Lab	1
MB 505	Food Microbiology	3
MB 506	Food Microbiology Lab	1
NTR 301	Introduction to Human Nutrition	3
NTR 401	Advanced Nutrition and Metabolism	3
NTR 415	Comparative Nutrition	3
NTR 419	Human Nutrition and Chronic Disease	3

NTR 454	Lactation, Milk and Nutrition	3	BIO 227	Understanding Structural Diversity through Biological Illustration	3
NTR 501	Advanced Nutrition and Metabolism	3	BIO 240	Principles of Human Anatomy & Physiology (A): Nervous, Skeletal, Muscular, & Digestive Systems	4
NTR 515	Comparative Nutrition	3	BIO 245	Principles of Human Anatomy & Physiology (B): Endocrine, Cardiovascular, Respiratory & Renal Systems	4
PB 103	Perspectives on Botany	1	BIO 315	General Parasitology	3
PB 200	Plant Life	4	BIO 330	Evolutionary Biology	3
PB 205	Our Green World	3	BIO 361	Developmental Biology	3
PB 208	Agricultural Biotechnology: Issues and Implications	3	BIO 370	Developmental Anatomy of the Vertebrates	3
PB 213	Plants and Civilization	3	BIO 375	Developmental Anatomy Laboratory	2
PB 215	Medicinal Plants	3	BIO 405	Functional Histology	3
PB 219	Plants in Folklore, Myth, and religion	3	BIO 414	Cell Biology	3
PB 220	Local Flora	3	BIO 424	Endocrinology	3
PB 250	Plant Biology	4	BIO 482	Capstone Course in Molecular, Cellular, and Developmental Biology	3
PB 277	Space Biology	3	BIO 483	Capstone Course in Integrative Physiology and Neurobiology	3
PB 321	Introduction to Whole Plant Physiology	3	BIO 484	Capstone Course in Human Biology	3
PB 360	Ecology	4	BIO 485	Capstone Course in Ecology, Evolution, and Conservation Biology	3
PB 400	Plant Diversity and Evolution	4	BIO 488	Neurobiology	3
PB 403	Systematic Botany	4	BIO 588	Neurobiology	3
PB 413	Plant Anatomy	2	BIT 210	Phage Hunters	3
PB 421	Plant Physiology	3	BIT 211	Phage Genomics	2
PB 445	Paleobotany	4	BIT 463	Fermentation of Recombinant Microorganisms	2
PB 464	Rare Plants of North Carolina	3	BIT 563	Fermentation of Recombinant Microorganisms	2
PB 480	Introduction to Plant Biotechnology	3	BME 301	Human Physiology : Electrical Analysis	3
PB 481	Plant Tissue Culture and Transformation	2	BME 302	Human Physiology: Mechanical Analysis	3
PB 503	Systematic Botany	4	CHE 463	Fermentation of Recombinant Microorganisms	2
PB 513	Plant Anatomy	2	CHE 563	Fermentation of Recombinant Microorganisms	2
PB 545	Paleobotany	4	CS 211	Plant Genetics	3
PB 564	Rare Plants of North Carolina	3	ENT 425	General Entomology	3
PB 580	Introduction to Plant Biotechnology	3	FS 301	Introduction to Human Nutrition	3
PHY 452		3	FS 405	Food Microbiology	3
PHY 552	Comparative Reproductive Physiology and Biotechnology	3	FS 406	Food Microbiology Lab	1
PO 415	Comparative Nutrition	3	FS 505	Food Microbiology	3
PO 466	Animal Cell Culture Techniques	2	FS 506	Food Microbiology Lab	1
PO 515	Comparative Nutrition	3	FW 353	Wildlife Management	3
PO 566	Animal Cell Culture Techniques	2	GN 301	Genetics in Human Affairs	3
PP 150	Introduction to Plant Molecular Biology	3	GN 311	Principles of Genetics	4
PP 222	Kingdom of Fungi	3	GN 312	Elementary Genetics Laboratory	1
Group A - Biological Sciences			GN 421	Molecular Genetics	3
AEC 419	Freshwater Ecology	4	GN 423	Population, Quantitative and Evolutionary Genetics	3
AEC 420	Introduction to Fisheries Science	3	GN 425	Advanced Genetics Laboratory	2
AEC 423	Introduction to Fisheries Sciences Laboratory	1	GN 434	Genes and Development	3
AEC 441	Biology of Fishes	3	GN 441	Human and Biomedical Genetics	3
AEC 442	Biology of Fishes Laboratory	1	GN 451	Genome Science	3
AEC 460	Field Ecology and Methods	4	GN 490	Genetics Colloquium	1
AEC 519	Freshwater Ecology	4	GN 521	Molecular Genetics	3
ANS 215	Agricultural Genetics	3	GN 541	Human and Biomedical Genetics	3
ANS 415	Comparative Nutrition	3	HS 215	Agricultural Genetics	3
ANS 515	Comparative Nutrition	3			
BEC 463	Fermentation of Recombinant Microorganisms	2			
BEC 563	Fermentation of Recombinant Microorganisms	2			
BIO 140		3			
BIO 141		1			

HS 451	Plant Nutrition	3	ZO 486	Capstone Course in Zoology	3
HS 551	Plant Nutrition	3	Group A - Biological Sciences		
MB 180	Introduction to Microbial Bioprocessing	3	BIT 100	Current Topics in Biotechnology	4
MB 200	The Fourth Horseman: Plagues that Changed the World	3	BIT 465	Real-time PCR Techniques	2
MB 210	Phage Hunters	3	BIT 471	RNA Interference and Model Organisms	2
MB 211	Phage Genomics	2	BIT 473	Protein Interactions	2
MB 351	General Microbiology	3	BIT 474	Plant Genetic Engineering	2
MB 352	General Microbiology Laboratory	1	BIT 565	Real-time PCR Techniques	2
MB 354	Inquiry-Guided Microbiology Lab	1	BIT 571	RNA Interference and Model Organisms	2
MB 405	Food Microbiology	3	BIT 573	Protein Interactions	2
MB 406	Food Microbiology Lab	1	BIT 574	Plant Genetic Engineering	2
MB 411	Medical Microbiology	3	ENT 305	Introduction to Forensic Entomology	3
MB 412	Medical Microbiology Laboratory	1	Group A - Physical Sciences		
MB 414	Microbial Metabolic Regulation	3	AEE 226	Computer Applications and Information Technology in Agricultural & Extension Ed	3
MB 420	Fundamentals of Microbial Cell Biotransformations	2	BAE 200	Computer Methods in Biological Engineering	2
MB 441	Immunology	3	BMA 573	Mathematical Modeling of Physical and Biological Processes I	3
MB 451	Microbial Diversity	3	BMA 574	Mathematical Modeling of Physical and Biological Processes II	3
MB 452	Microbial Diversity Lab	2	BUS 340	Information Systems Management	3
MB 455	Microbial Biotechnology	3	BUS 350	Economics and Business Statistics	3
MB 461	Molecular Virology	3	CE 435	Engineering Geology	3
MB 480	Current Issues in Microbiology	1	CE 479	Air Quality	3
MB 505	Food Microbiology	3	CE 581	Fluid Mechanics in Natural Environments	3
MB 506	Food Microbiology Lab	1	CH 230	Computational Chemistry Lab I	1
MB 520	Fundamentals of Microbial Cell Biotransformations	2	CH 232	Computational Chemistry Lab II	1
MEA 200	Introduction to Oceanography	3	CH 315	Quantitative Analysis	3
MEA 210	Oceanography Lab	1	CH 316	Quantitative Analysis Laboratory	1
MEA 220	Marine Biology	3	CH 331	Introductory Physical Chemistry	4
MEA 250	Introduction to Coastal Environments	3	CH 401	Systematic Inorganic Chemistry I	3
MEA 251	Introduction to Coastal Environments Laboratory	1	CH 403	Systematic Inorganic Chemistry II	3
MEA 369	Life on Earth: Principles of Paleontology	3	CH 415	Analytical Chemistry II	3
NTR 301	Introduction to Human Nutrition	3	CH 431	Physical Chemistry I	3
NTR 415	Comparative Nutrition	3	CH 433	Physical Chemistry II	3
NTR 419	Human Nutrition and Chronic Disease	3	CH 435	Introduction to Quantum Chemistry	3
NTR 490	Senior Capstone Experience in Nutrition	4	CH 437	Physical Chemistry for Engineers	4
NTR 515	Comparative Nutrition	3	CH 441	Forensic Chemistry	3
PO 404	Avian Anatomy and Physiology	4	CH 442	Advanced Synthetic Techniques	4
PO 415	Comparative Nutrition	3	CH 444	Advanced Synthetic Techniques II	4
PO 504	Avian Anatomy and Physiology	4	CH 452	Advanced Measurement Techniques I	4
PO 515	Comparative Nutrition	3	CH 454	Advanced Measurement Techniques II	4
SSC 200	Soil Science	3	CH 463	Molecular Origins of Life	3
SSC 201	Soil Science Laboratory	1	CH 563	Molecular Origins of Life	3
SSC 332	Environmental Soil Microbiology	3	CSC 110	Computer Science Principles - The Beauty and Joy of Computing	3
SSC 470	Wetland Soils	3	CSC 111	Introduction to Computing: Python	3
SSC 570	Wetland Soils	3	CSC 112	Introduction to Computing-FORTRAN	3
ZO 233	Human-Animal Interactions	3	CSC 113	Introduction to Computing - MATLAB	3
ZO 250	Animal Anatomy and Physiology	4	CSC 116	Introduction to Computing - Java	3
ZO 317	Primate Ecology and Evolution	3	CSC 216	Software Development Fundamentals	3
ZO 333	Captive Animal Biology	3	CSC 217	Software Development Fundamentals Lab	1
ZO 350	Animal Phylogeny and Diversity	4	CSC 226	Discrete Mathematics	3
ZO 402	Invertebrate Biology	4			
ZO 410	Introduction to Animal Behavior	3			

CSC 230	C and Software Tools	3	CSC 515	Software Security	3
CSC 236	Computer Organization and Assembly Language for Computer Scientists	3	CSC 517	Object-Oriented Design and Development	3
CSC 246	Concepts and Facilities of Operating Systems for Computer Scientists	3	CSC 519	DevOps: Modern Software Engineering Practices	3
CSC 251	Python Applications	1	CSC 520	Artificial Intelligence I	3
CSC 255		1	CSC 522	Automated Learning and Data Analysis	3
CSC 281	Foundations of Interactive Game Design	3	CSC 530	Computational Methods for Molecular Biology	3
CSC 295	Special Topics in Computer Science	1-3	CSC 533	Privacy in the Digital Age	3
CSC 302	Introduction to Numerical Methods	3	CSC 540	Database Management Concepts and Systems	3
CSC 316	Data Structures and Algorithms	3	CSC 541	Advanced Data Structures	3
CSC 326	Software Engineering	4	CSC 546	Management Decision and Control Systems	3
CSC 333	Automata, Grammars, and Computability	3	CSC 547	Cloud Computing Technology	3
CSC 342	Applied Web-based Client-Server Computing	3	CSC 548	Parallel Systems	3
CSC 379	Ethics in Computing	1	CSC 554	Human-Computer Interaction	3
CSC 401	Data and Computer Communications Networks	3	CSC 555	Social Computing and Decentralized Artificial Intelligence	3
CSC 402	Networking Projects	3	CSC 561	Principles of Computer Graphics	3
CSC 405	Computer Security	3	CSC 562	Introduction to Game Engine Design	3
CSC 406	Architecture Of Parallel Computers	3	CSC 563	Visual Interfaces for Mobile Devices	3
CSC 411	Introduction to Artificial Intelligence	3	CSC 565	Graph Theory	3
CSC 412	Compiler Construction	3	CSC 568	Enterprise Storage Architecture	3
CSC 415	Software Security	3	CSC 570	Computer Networks	3
CSC 416	Introduction to Combinatorics	3	CSC 573	Internet Protocols	3
CSC 417	Theory of Programming Languages	3	CSC 574	Computer and Network Security	3
CSC 422	Automated Learning and Data Analysis	3	CSC 575	Introduction to Wireless Networking	3
CSC 427	Introduction to Numerical Analysis I	3	CSC 576	Networking Services: QoS, Signaling, Processes	3
CSC 428	Introduction to Numerical Analysis II	3	CSC 577	Switched Network Management	3
CSC 431	File Organization and Processing	3	CSC 579	Introduction to Computer Performance Modeling	3
CSC 440	Database Management Systems	3	CSC 580	Numerical Analysis I	3
CSC 442	Introduction to Data Science	3	CSC 582	Computer Models of Interactive Narrative	3
CSC 450	Web Services	3	CSC 583	Introduction to Parallel Computing	3
CSC 453	Introduction to Internet of Things (IoT) Systems	3	CSC 584	Building Game AI	3
CSC 454	Human-Computer Interaction	3	CSC 591	Special Topics In Computer Science	1-6
CSC 455	Social Computing and Decentralized Artificial Intelligence	3	E 531	Dynamic Systems and Multivariable Control I	3
CSC 456	Computer Architecture and Multiprocessors	3	ECE 406	Architecture Of Parallel Computers	3
CSC 461	Computer Graphics	3	ECE 460		3
CSC 462	Advanced Computer Graphics Projects	3	ECE 506	Architecture Of Parallel Computers	3
CSC 467	Introduction to Quantum Algorithms	3	ECE 514	Random Processes	3
CSC 474	Network Security	3	ECE 517	Object-Oriented Design and Development	3
CSC 481	Game Engine Foundations	3	ECE 547	Cloud Computing Technology	3
CSC 482	Advanced Computer Game Projects	3	ECE 560		3
CSC 484	Building Game AI	3	ECE 570	Computer Networks	3
CSC 492	Senior Design Project	3	ECE 573	Internet Protocols	3
CSC 495		1-6	ECE 574	Computer and Network Security	3
CSC 499	Independent Research in Computer Science	1-6	ECE 575	Introduction to Wireless Networking	3
CSC 501	Operating Systems Principles	3	ECE 576	Networking Services: QoS, Signaling, Processes	3
CSC 503	Computational Applied Logic	3	ECE 577	Switched Network Management	3
CSC 505	Design and Analysis Of Algorithms	3	ECE 579	Introduction to Computer Performance Modeling	3
CSC 506	Architecture Of Parallel Computers	3	ECG 528	Options and Derivatives Pricing	3
CSC 510	Software Engineering	3	ET 320	Fundamentals of Air Pollution	3
CSC 512	Compiler Construction	3	FIM 528	Options and Derivatives Pricing	3
CSC 513	Electronic Commerce Technology	3	FIM 548	Monte Carlo Methods for Financial Math	3
			FIM 549	Financial Risk Analysis	3

GIS 582	Geospatial Modeling	3	MA 510	Selected Topics In Mathematics For Secondary Teachers	1-6
ISE 441	Introduction to Simulation	3	MA 511	Advanced Calculus I	3
ISE 505	Linear Programming	3	MA 513	Introduction To Complex Variables	3
ISE 546	Management Decision and Control Systems	3	MA 515	Analysis I	3
LOG 201	Logic	3	MA 518	Geometry of Curves and Surfaces	3
LOG 335	Symbolic Logic	3	MA 520	Linear Algebra	3
MA 105	Mathematics of Finance	3	MA 521	Abstract Algebra I	3
MA 225	Foundations of Advanced Mathematics	3	MA 522	Computer Algebra	3
MA 242	Calculus III	4	MA 523	Linear Transformations and Matrix Theory	3
MA 302	Numerical Applications to Differential Equations	1	MA 524	Combinatorics I	3
MA 303	Linear Analysis	3	MA 526	Mathematical Analysis II	3
MA 305	Introductory Linear Algebra and Matrices	3	MA 528	Options and Derivatives Pricing	3
MA 315	Mathematics Methods in Atmospheric Sciences	4	MA 531	Dynamic Systems and Multivariable Control I	3
MA 325	Introduction to Applied Mathematics	3	MA 532	Ordinary Differential Equations I	3
MA 331	Differential Equations for the Life Sciences	3	MA 534	Introduction To Partial Differential Equations	3
MA 335	Symbolic Logic	3	MA 537	Nonlinear Dynamics and Chaos	3
MA 341	Applied Differential Equations I	3	MA 540	Uncertainty Quantification for Physical and Biological Models	3
MA 351	Introduction to Discrete Mathematical Models	3	MA 544	Computer Experiments In Mathematical Probability	3
MA 401	Applied Differential Equations II	3	MA 546	Probability and Stochastic Processes I	3
MA 402	Mathematics of Scientific Computing	3	MA 547	Stochastic Calculus for Finance	3
MA 403	Introduction to Modern Algebra	3	MA 548	Monte Carlo Methods for Financial Math	3
MA 405	Introduction to Linear Algebra	3	MA 549	Financial Risk Analysis	3
MA 407	Introduction to Modern Algebra for Mathematics Majors	3	MA 551	Introduction to Topology	3
MA 408	Foundations of Euclidean Geometry	3	MA 555	Introduction to Manifold Theory	3
MA 410	Theory of Numbers	3	MA 561	Set Theory and Foundations Of Mathematics	3
MA 412	Long-Term Actuarial Models	3	MA 565	Graph Theory	3
MA 413	Short-Term Actuarial Models	3	MA 573	Mathematical Modeling of Physical and Biological Processes I	3
MA 416	Introduction to Combinatorics	3	MA 574	Mathematical Modeling of Physical and Biological Processes II	3
MA 421	Introduction to Probability	3	MA 580	Numerical Analysis I	3
MA 425	Mathematical Analysis I	3	MA 583	Introduction to Parallel Computing	3
MA 426	Mathematical Analysis II	3	MA 584	Numerical Solution of Partial Differential Equations--Finite Difference Methods	3
MA 427	Introduction to Numerical Analysis I	3	MA 587	Numerical Solution of Partial Differential Equations--Finite Element Method	3
MA 428	Introduction to Numerical Analysis II	3	MA 591	Special Topics	1-6
MA 430	Mathematical Models in the Physical Sciences	3	MBA 528	Options and Derivatives Pricing	3
MA 432	Mathematical Models in Life Sciences	3	MEA 100	Earth System Science: Exploring the Connections	4
MA 437	Applications of Algebra	3	MEA 101	Geology I: Physical	3
MA 444	Problem Solving Strategies for Competitions	1	MEA 110	Geology I Laboratory	1
MA 450	Methods of Applied Mathematics I	3	MEA 130	Introduction to Weather and Climate	3
MA 451	Methods of Applied Mathematics II	3	MEA 135	Introduction to Weather and Climate Laboratory	1
MA 491	Reading in Honors Mathematics	1-6	MEA 202	Geology II: Historical	3
MA 493	Special Topics in Mathematics	1-6	MEA 211	Geology II Laboratory	1
MA 494	Major Paper in Mathematics	1	MEA 300	Environmental Geology	4
MA 499	Independent Research in Mathematics	1-6	MEA 312	Atmospheric Thermodynamics	4
MA 501	Advanced Mathematics for Engineers and Scientists I	3	MEA 315	Mathematics Methods in Atmospheric Sciences	4
MA 502	Advanced Mathematics for Engineers and Scientists II	3	MEA 320	Fundamentals of Air Pollution	3
MA 504	Introduction to Mathematical Programming	3	MEA 321	Fundamentals of Air Quality and Climate Change	3
MA 505	Linear Programming	3	MEA 323	Geochemistry of Natural Waters	3
MA 507	Survey of Real Analysis	3			
MA 508	Survey of Geometry	3			
MA 509	Survey of Abstract Algebra	3			

MEA 409	Watershed Forensics	3	MEA 554	Marine Physical-Biological Interactions	3
MEA 410	Introduction to Mineralogy	4	MEA 562	Marine Sediment Transport	3
MEA 411	Marine Sediment Transport	3	MEA 570	Geological Oceanography	3
MEA 412	Atmospheric Physics	3	MEA 573	Principles of Chemical Oceanography	3
MEA 415	Climate Dynamics	3	MEA 574	Advanced Igneous Petrology	3
MEA 421	Atmospheric Dynamics I	3	MEA 577	Electron Microprobe Analysis of Geologic Material	2
MEA 422	Atmospheric Dynamics II	3	MEA 579	Principles of Air Quality Engineering	3
MEA 425	Introduction to Atmospheric Chemistry	3	MEA 580	Air Quality Modeling and Forecasting	4
MEA 440	Igneous and Metamorphic Petrology	4	MEA 581	Fluid Mechanics in Natural Environments	3
MEA 443	Synoptic Weather Analysis and Forecasting	4	MEA 582	Geospatial Modeling	3
MEA 444	Mesoscale Analysis and Forecasting	4	MEA 585	Physical Hydrogeology	3
MEA 449	Principles of Biological Oceanography	3	MEA 591	Special Topics in Marine Science	1-6
MEA 450	Introductory Sedimentology and Stratigraphy	4	MEA 592	Special Topics in Earth Sciences	1-6
MEA 451	Structural Geology	4	MEA 593	Special Topics in Atmospheric Science	1-6
MEA 454	Marine Physical-Biological Interactions	3	MEA 599	Regional Geology of North America	1-6
MEA 455	Micrometeorology	3	OR 504	Introduction to Mathematical Programming	3
MEA 458	Introduction to Tropical Meteorology	3	OR 505	Linear Programming	3
MEA 459	Field Investigation of Coastal Processes	5	OR 531	Dynamic Systems and Multivariable Control I	3
MEA 460	Principles of Physical Oceanography	3	OR 565	Graph Theory	3
MEA 462	Observational Methods and Data Analysis in Marine Physics	3	OR 579	Introduction to Computer Performance Modeling	3
MEA 463	Fluid Physics	3	PSY 240	Introduction to Behavioral Research I	3
MEA 464	Ocean Circulation Systems	3	PSY 241	Introduction to Behavioral Research I Lab	1
MEA 465	Geologic Field Camp	4	PSY 242	Introduction to Behavioral Research II	3
MEA 466	Preparatory Course for Field Camp	1	PSY 243	Introduction to Behavioral Research II Lab	2
MEA 467	Marine Meteorology	3	PY 414	Electromagnetism I	3
MEA 469	Ecology of Coastal Resources	3	PY 415	Electromagnetism II	3
MEA 470	Introduction to Geophysics	3	PY 514	Electromagnetism I	3
MEA 471	Exploration and Engineering Geophysics	3	PY 515	Electromagnetism II	3
MEA 473	Principles of Chemical Oceanography	3	ST 350	Economics and Business Statistics	3
MEA 476	Worldwide River and Delta Systems: Their Evolution and Human Impacts	3	ST 412	Long-Term Actuarial Models	3
MEA 479	Air Quality	3	ST 413	Short-Term Actuarial Models	3
MEA 481	Geomorphology: Earth's Dynamic Surface	3	ST 442	Introduction to Data Science	3
MEA 485	Introduction to Hydrogeology	3	ST 546	Probability and Stochastic Processes I	3
MEA 488	Meteorology for Media	3	Group A - Physical Sciences		
MEA 493	Special Topics in MEAS	1-6	BME 201	Computer Methods in Biomedical Engineering	3
MEA 495	Junior Seminar in the Marine, Earth, and Atmospheric Sciences	1	CSC 442	Introduction to Data Science	3
MEA 498	Internship in MEAS	1-6	EC 351	Econometrics I	3
MEA 507	Discipline-based Education Research in the Geosciences	3	ECE 489	Solid State Solar and Thermal Energy Harvesting	3
MEA 510	Air Pollution Meteorology	3	ECE 589	Solid State Solar and Thermal Energy Harvesting	3
MEA 511	Introduction to Meteorological Remote Sensing	3	ECG 561	Applied Econometrics I	3
MEA 514	Advanced Physical Meteorology	3	EMS 519	Teaching and Learning of Statistical Thinking	3
MEA 515	Climate Dynamics	3	GPH 404	Epidemiology and Statistics in Global Public Health	3
MEA 517	Fundamentals of Climate Change Science	3	MA 412	Long-Term Actuarial Models	3
MEA 518	Adaptation to Climate Change	3	MA 413	Short-Term Actuarial Models	3
MEA 519	Barriers to Climate Change Literacy	3	MA 546	Probability and Stochastic Processes I	3
MEA 525	Introduction to Atmospheric Chemistry	3	MA 555	Introduction to Manifold Theory	3
MEA 540	Principles of Physical Oceanography	3	MEA 150	Environmental Issues in Water Resources	4
MEA 549	Principles of Biological Oceanography	3	MEA 463	Fluid Physics	3
MEA 553	Estuarine Biogeochemistry	3	MSE 489	Solid State Solar and Thermal Energy Harvesting	3
			MSE 589	Solid State Solar and Thermal Energy Harvesting	3
			NE 528	Introduction to Plasma Physics and Fusion Energy	3

NE 529	Plasma Physics and Fusion Energy II	3	ST 370	Probability and Statistics for Engineers	3
PSY 240	Introduction to Behavioral Research I	3	ST 371	Introduction to Probability and Distribution Theory	3
PSY 241	Introduction to Behavioral Research I Lab	1	ST 372	Introduction to Statistical Inference and Regression	3
PSY 242	Introduction to Behavioral Research II	3	ST 401	Experiences in Data Analysis	4
PSY 243	Introduction to Behavioral Research II Lab	2	ST 404	Epidemiology and Statistics in Global Public Health	3
PY 123	Stellar and Galactic Astronomy	3	ST 405	Applied Nonparametric Statistics	3
PY 124	Solar System Astronomy	3	ST 412	Long-Term Actuarial Models	3
PY 125	Astronomy Laboratory	1	ST 413	Short-Term Actuarial Models	3
PY 131	Conceptual Physics	4	ST 421	Introduction to Mathematical Statistics I	3
PY 203	University Physics III	4	ST 422	Introduction to Mathematical Statistics II	3
PY 301	Introduction to Quantum Mechanics	3	ST 430	Introduction to Regression Analysis	3
PY 328	Stellar and Galactic Astrophysics	3	ST 431	Introduction to Experimental Design	3
PY 341	Relativity, Gravitation and Cosmology	3	ST 432	Introduction to Survey Sampling	3
PY 401	Quantum Physics I	3	ST 433	Applied Spatial Statistics	3
PY 402	Quantum Physics II	3	ST 434	Applied Time Series	3
PY 407	Introduction to Modern Physics	3	ST 435	Statistical Methods for Quality and Productivity Improvement	3
PY 411	Mechanics I	3	ST 437	Applied Multivariate and Longitudinal Data Analysis	3
PY 412	Mechanics II	3	ST 440	Applied Bayesian Analysis	3
PY 413	Thermal Physics	3	ST 442	Introduction to Data Science	3
PY 414	Electromagnetism I	3	ST 445	Introduction to Statistical Computing and Data Management	3
PY 415	Electromagnetism II	3	ST 446	Intermediate SAS Programming with Applications	3
PY 452	Advanced Physics Laboratory	3	ST 491	Statistics in Practice	3
PY 489	Solid State Solar and Thermal Energy Harvesting	3	ST 495	Special Topics in Statistics	1-6
PY 495	Special Topics in Physics	1-4	ST 497	Professional Experience in Statistics	1-3
PY 499	Independent Research in Physics	1-6	ST 498	Independent Study In Statistics	1-6
PY 501	Quantum Physics I	3	ST 499	Research Experience in Statistics	1-3
PY 502	Quantum Physics II	3	ST 501	Fundamentals of Statistical Inference I	3
PY 506	Nuclear and Subatomic Physics	3	ST 502	Fundamentals of Statistical Inference II	3
PY 507	Elementary Particle Physics	3	ST 503	Fundamentals of Linear Models and Regression	3
PY 509	General Relativity	3	ST 505	Applied Nonparametric Statistics	3
PY 511	Mechanics I	3	ST 507	Statistics For the Behavioral Sciences I	3
PY 512	Mechanics II	3	ST 511	Statistical Methods For Researchers I	3
PY 514	Electromagnetism I	3	ST 512	Statistical Methods For Researchers II	3
PY 515	Electromagnetism II	3	ST 513	Statistics for Management and Social Sciences I	3
PY 516	Physical Optics	3	ST 514	Statistics For Management and Social Sciences II	3
PY 517	Atomic and Molecular Physics	3	ST 515	Experimental Statistics for Engineers I	3
PY 519	Biological Physics	3	ST 516	Experimental Statistics For Engineers II	3
PY 525	Computational Physics	3	ST 517	Applied Statistical Methods I	3
PY 528	Introduction to Plasma Physics and Fusion Energy	3	ST 519	Teaching and Learning of Statistical Thinking	3
PY 529	Plasma Physics and Fusion Energy II	3	ST 520	Statistical Principles of Clinical Trials	3
PY 543	Astrophysics	3	ST 533	Applied Spatial Statistics	3
PY 552	Condensed Matter Physics I	3	ST 534	Applied Time Series	3
PY 570	Polymer Physics	3	ST 535	Statistical Methods for Quality and Productivity Improvement	3
PY 581	Matter & Interactions for Teachers I	3	ST 537	Applied Multivariate and Longitudinal Data Analysis	3
PY 582	Matter & Interactions for Teachers II	3	ST 540	Applied Bayesian Analysis	3
PY 589	Solid State Solar and Thermal Energy Harvesting	3	ST 542	Statistical Practice	3
PY 590	Special Topics In Physics	1-6			
PY 599	Special Topics in Physics	1-6			
SSC 200	Soil Science	3			
SSC 201	Soil Science Laboratory	1			
ST 311	Introduction to Statistics	3			
ST 312	Introduction to Statistics II	3			

ST 544	Applied Categorical Data Analysis	3
ST 546	Probability and Stochastic Processes I	3
ST 555	Statistical Programming I	3
ST 556	Statistical Programming II	3
ST 557	Using Technology to Teach and Learn with Data	3
ST 558	Data Science for Statisticians	3
ST 561	Applied Econometrics I	3
ST 562	Data Mining with SAS Enterprise Miner	3
ST 563	Introduction to Statistical Learning	3
ST 590	Special Topics	1-6
ST 701	Statistical Theory I	3
ST 702	Statistical Theory II	3
ST 705	Linear Models and Variance Components	3
TE 570	Polymer Physics	3

Group B - Economics & Business

ACC 200	Introduction to Managerial Accounting	3
ACC 210	Concepts of Financial Reporting	3
ACC 220	Introduction to Managerial Accounting	3
ACC 280	Survey of Financial and Managerial Accounting	3
ACC 310	Intermediate Financial Accounting I	3
ACC 311	Intermediate Financial Accounting II	3
ACC 330	An Introduction To Income Taxation	3
ACC 340	Accounting Information Systems	3
ACC 411	Business Valuation	3
ACC 420	Cost Accounting for Effective Management	3
ACC 440	Enterprise Resource Planning Systems: Implementation, Risk, and Analytics	3
ACC 450	Auditing and Assurance Services	3
ACC 451	Internal Auditing	3
ACC 460	Governmental and Nonprofit Accounting	3
ARE 215	Small Business Accounting	3
ARE 301	Intermediate Microeconomics	3
ARE 303	Farm Management	3
ARE 304	Agribusiness Management	3
ARE 306	Agricultural Law	3
ARE 309	Environmental Law & Economic Policy	3
ARE 311	Agricultural Markets	3
ARE 312	Agribusiness Marketing	3
ARE 321	Agricultural Financial Management	3
ARE 336	Introduction to Resource and Environmental Economics	3
ARE 345	Global Agribusiness Management	3
ARE 404	Advanced Agribusiness Management	3
ARE 413	Applied Agribusiness Marketing	3
ARE 433	U.S. Agricultural Policy	3
ARE 490	Career Seminar in Agriculture & Resource Economics	1
BUS 225	Personal Finance	3
BUS 320	Financial Management	3
BUS 340	Information Systems Management	3
BUS 360	Marketing Methods	3
BUS 370	Operations and Supply Chain Management	3
BUS 420	Financial Management of Corporations	3

BUS 422	Investments and Portfolio Management	3
BUS 425	Advanced Personal Financial Management	3
BUS 426	International Financial Management	3
BUS 440	Database Management	3
BUS 441	Business Data Communications and Networking	3
BUS 442	Information Systems Development	3
BUS 443	Web Development for Business Applications	3
BUS 444	Systems Analysis and Design	3
BUS 461	Channel and Retail Marketing	3
BUS 462	Marketing Research	3
BUS 464	International Marketing	3
BUS 465	Traditional and Digital Brand Promotion	3
BUS 466	Personal Selling	3
BUS 467	Product and Brand Management	3
BUS 468	Marketing Strategy	3
BUS 469	Digital Marketing Practicum	3
BUS 470	Operations Modeling and Analysis	3
BUS 472	Operations Planning and Control Systems	3
BUS 473	Supply Chain Strategy	3
BUS 475	Purchasing and Supply Management	3
BUS 479	Supply Chain Management Undergraduate Practicum	3
EC 301	Intermediate Microeconomics	3
EC 336	Introduction to Resource and Environmental Economics	3
FTM 482	Global Brand Management in Textiles and Apparel	3
M 100	Personal and Professional Identity Development	1
MIE 201	Introduction to Business	3
MIE 305	Legal and Regulatory Environment	3
MIE 330	Managing People	3
MIE 335	Organizational Behavior	3
MIE 432	Employee Relations	3
MIE 434	Rewards and Relationship Management	3
MIE 435	Leading in a Changing World	3
MIE 436	Consultative Skills	3
MIE 438	Talent Management	3
MIE 480	Business Policy and Strategy	3
PRT 406	Sports Law	3

Group B - Economics & Business

ACC 200	Introduction to Managerial Accounting	3
ACC 220	Introduction to Managerial Accounting	3
ACC 280	Survey of Financial and Managerial Accounting	3
ARE 301	Intermediate Microeconomics	3
ARE 332	Human Resource Management for Agribusiness	3
ARE 336	Introduction to Resource and Environmental Economics	3
ARE 412	Advanced Agribusiness Marketing	3
BUS 340	Information Systems Management	3
BUS 449	Information Technology Practicum	3
BUS 474	Logistics Management	3
EC 202	Principles of Macroeconomics	3
EC 301	Intermediate Microeconomics	3
EC 302	Intermediate Macroeconomics	3

EC 305	A Closer Look at Capitalism	3	BAET 411	Agricultural Machinery and Power Units	4
EC 336	Introduction to Resource and Environmental Economics	3	BAET 432	Agricultural and Environmental Safety and Health	3
EC 348	Introduction to International Economics	3	BAET 443	Environmental Restoration Implementation	3
EC 351	Econometrics I	3	ALS 110	Academic and Career Skills Seminar	1
EC 404	Money, Financial Markets, and the Economy	3	ANS 105	Introduction to Companion Animal Science	3
EC 410	Public Finance	3	ANS 110	Introduction to Equine Science	3
EC 413	Industrial Organization	3	ANS 150	Introduction to Animal Science	3
EC 431	Labor Economics	3	ANS 151	Introduction to Animal Science Lab	1
EC 449	International Finance	3	ANS 201	Techniques of Animal Care	2
EC 451	Econometrics II	3	ANS 208	Agricultural Biotechnology: Issues and Implications	3
EC 474	Economics of Financial Institutions and Markets	3	ANS 303	Principles of Equine Evaluation	2
EC 490	Research Seminar in Economics	3	ANS 304	Dairy Cattle Evaluation	2
FTM 482	Global Brand Management in Textiles and Apparel	3	ANS 309	Livestock Evaluation	3
MIE 412	Finance and Accounting for Entrepreneurs	3	ANS 322	Muscle Foods and Eggs	3
MIE 413	New Venture Planning	3	ANS 324	Milk and Dairy Products	3
MIE 419	Entrepreneurship Practicum	3	ANS 400	Companion Animal Management	3
PRT 406	Sports Law	3	ANS 402	Beef Cattle Management	3
Group C - Applied Sci & Tech			ANS 403	Swine Management	3
AEE 101	Introduction to Career and Technical Education	1	ANS 404	Dairy Cattle Management	3
AEE 208	Agricultural Biotechnology: Issues and Implications	3	ANS 408	Small Ruminant Management	3
AEE 230	Introduction to Cooperative Extension	3	ANS 410	Equine Breeding Farm Management	3
AEE 303	Administration and Supervision of Student Organizations	3	ANS 425	Feed Manufacturing Technology	3
AEE 311	Communication Methods and Media	3	ANS 440	Animal Genetic Improvement	3
AEE 322	Experiential Learning in Agriculture	3	ANS 453	Physiology and Genetics of Growth and Development	3
AEE 323	Leadership Development in Agriculture and Life Sciences	3	ANS 454	Lactation, Milk and Nutrition	3
AEE 325	Planning and Delivering Non-Formal Education	3	ANS 525	Feed Manufacturing Technology	3
AEE 326	Teaching Diverse Learners in AED	3	ANS 540	Animal Genetic Improvement	3
AEE 327	Conducting Summer Programs in Agricultural Education	1	ANS 553	Physiology and Genetics of Growth and Development	3
AEE 350	Personal Leadership Development in Agriculture and Life Sciences	3	ANS 554	Lactation, Milk and Nutrition	3
AEE 360	Developing Team Leadership in Agriculture and Life Sciences	3	BAE 100	Introduction to Biological and Agricultural Engineering and Technology	1
AEE 423	Practicum in Agricultural Extension/Industry	8	BAE 202	Introduction to Biological and Agricultural Engineering Methods	4
AEE 424	Planning Agricultural Educational Programs	3	BAE 302	Transport Phenomena	3
AEE 426	Methods of Teaching Agriculture	3	BAE 322	Introduction to Food Process Engineering	3
AEE 427	Student Teaching in Agriculture	8	BAE 361	Analytical Methods in Engineering Design	3
AEE 433	Leadership and Management of Volunteers in Agricultural and Extension Education	3	BAE 371	Fundamentals of Hydrology for Engineers	3
AEE 435	Professional Presentations in Agricultural Organizations	3	BAE 401	Sensors and Controls	3
AEE 460	Organizational Leadership Development in Agriculture and Life Sciences	3	BAE 435	Precision Agriculture Technology	3
AEE 478	Advanced Issues in Extension Education	3	BAE 451	Engineering Design I	2
AEE 490	Seminar in Agricultural and Extension Education	1	BAE 452	Engineering Design II	2
AEE 533	Leadership and Management of Volunteers in Agricultural and Extension Education	3	BAE 462	Machinery Design and Applications	3
BAET 201	Shop Processes and Management	3	BAE 472	Irrigation and Drainage	3
BAET 323	Water Management	3	BAE 473	Introduction to Hydrologic and Water Quality Modeling	3
BAET 332	Management of Animal Environments	4	BAE 474	Principles and Applications of Ecological Engineering	3
BAET 333	Processing Agricultural Products	3	BAE 481	Structures & Environment	3
			BAE 501	Sensors and Controls	3
			BAE 535	Precision Agriculture Technology	3
			BAE 572	Irrigation and Drainage	3

BAE 573	Introduction to Hydrologic and Water Quality Modeling	3	ANS 525	Feed Manufacturing Technology	3
BEC 330	Principles and Applications of Bioseparations	2	BAE 325	Introductory Geomatics	3
BEC 436	Introduction to Downstream Process Development	2	BAE 425	Industrial Microbiology and Bioprocessing	3
BEC 536	Introduction to Downstream Process Development	2	BAE 435	Precision Agriculture Technology	3
BME 207	Biomedical Electronics	4	BAE 525	Industrial Microbiology and Bioprocessing	3
BME 412	Biomedical Signal Processing	3	BAE 535	Precision Agriculture Technology	3
BME 385	Bioinstrumentation	3	BBS 201	Introduction to Biopharmaceutical Science	3
BME 425	Bioelectricity	3	BBS 301	Process Validation Science	3
BME 525	Bioelectricity	3	BBS 426	Upstream Biomanufacturing Laboratory	2
CS 470	Advanced Turfgrass Pest Management	2	BBS 526	Upstream Biomanufacturing Laboratory	2
ECI 424	Student Teaching in Modern Foreign Languages	12	BCH 220	Role of Biotechnology in Society	3
ENT 470	Advanced Turfgrass Pest Management	2	BEC 426	Upstream Biomanufacturing Laboratory	2
FM 425	Feed Manufacturing Technology	3	BEC 483		2
FM 525	Feed Manufacturing Technology	3	BEC 526	Upstream Biomanufacturing Laboratory	2
FS 322	Muscle Foods and Eggs	3	BEC 583		2
FS 324	Milk and Dairy Products	3	BME 444	Orthopaedic Biomechanics	3
FS 435	Food Safety Management Systems	3	BME 451	BME Senior Design: Product Development	3
FS 535	Food Safety Management Systems	3	BME 452	BME Senior Design: Product Implementation and Strategy	3
NTR 425	Feed Manufacturing Technology	3	BME 466	Polymeric Biomaterials Engineering	3
NTR 454	Lactation, Milk and Nutrition	3	BME 467	Mechanics of Tissues & Implants Requirements	3
NTR 525	Feed Manufacturing Technology	3	BME 483	Tissue Engineering Technologies	2
PB 208	Agricultural Biotechnology: Issues and Implications	3	BME 484	Fundamentals of Tissue Engineering	3
PO 322	Muscle Foods and Eggs	3	BME 544	Orthopaedic Biomechanics	3
PO 425	Feed Manufacturing Technology	3	BME 566	Polymeric Biomaterials Engineering	3
PO 525	Feed Manufacturing Technology	3	BME 583	Tissue Engineering Technologies	2
PP 470	Advanced Turfgrass Pest Management	2	BME 584	Fundamentals of Tissue Engineering	3
SSC 440	Geographic Information Systems (GIS) in Soil Science and Agriculture	3	CS 200	Introduction to Turfgrass Management	4
SSC 473	Introduction to Hydrologic and Water Quality Modeling	3	CS 210	Lawns and Sports Turf	3
SSC 540	Geographic Information Systems (GIS) in Soil Science and Agriculture	3	CS 213	Crop Science	3
SSC 573	Introduction to Hydrologic and Water Quality Modeling	3	CS 216	Southern Row Crop Production - Cotton, Peanuts, and Tobacco	3
USC 291	Service Learning Program Leader Development I	1	CS 218	Southern Row Crop Production - Corn, Small Grains and Soybeans	3
USC 292	Service Learning Program Leader Development II	2	CS 230	Introduction to Agroecology	3
Group C - Applied Sci & Tech			CS 400	Turf Cultural Systems	3
AEC 420	Introduction to Fisheries Science	3	CS 411		3
AEE 206	Introduction to Teaching Agriculture	3	CS 413	Plant Breeding	2
AEE 303	Administration and Supervision of Student Organizations	3	CS 414	Weed Science	4
AEE 322	Experiential Learning in Agriculture	3	CS 415	Integrated Pest Management	3
AEE 327	Conducting Summer Programs in Agricultural Education	1	CS 424	Seed Physiology	3
AEE 424	Planning Agricultural Educational Programs	3	CS 430	Advanced Agroecology	4
AEE 426	Methods of Teaching Agriculture	3	CS 465	Turf Management Systems and Environmental Quality	3
AEE 427	Student Teaching in Agriculture	8	CS 524	Seed Physiology	3
ANS 322	Muscle Foods and Eggs	3	CS 565	Turf Management Systems and Environmental Quality	3
ANS 324	Milk and Dairy Products	3	CSSC 490	Senior Seminar in Crop Science and Soil Science	1
ANS 330	Laboratory Animal Science	3	ECI 424	Student Teaching in Modern Foreign Languages	12
ANS 411	Management of Growing and Performance Horses	3	ENT 203	An Introduction to the Honey Bee and Beekeeping	3
ANS 425	Feed Manufacturing Technology	3	ENT 401	Honey Bee Biology and Management	3
			ES 100	Introduction to Environmental Sciences	3
			ES 200	Climate Change and Sustainability	3

ES 300	Energy and Environment	3	HS 562	Postharvest Physiology	3
ES 400	Analysis of Environmental Issues	3	IDS 303	Humans and the Environment	3
FM 425	Feed Manufacturing Technology	3	NR 303	Humans and the Environment	3
FM 460	Feed Mill Operations and Leadership	3	NR 350	International Sustainable Resource Use	4
FM 480	Feed Quality Assurance & Formulation	3	NR 406	Conservation of Biological Diversity	3
FM 490	Feed Science Seminar	1	NR 420	Watershed and Wetlands Hydrology	4
FM 525	Feed Manufacturing Technology	3	NR 460	Renewable Natural Resource Management and Policy	3
FOR 318	Forest Pathology	3	NR 520	Watershed and Wetlands Hydrology	4
FOR 420	Watershed and Wetlands Hydrology	4	NR 560	Renewable Natural Resource Management and Policy	3
FOR 472	Forest Soils	4	NTR 425	Feed Manufacturing Technology	3
FOR 520	Watershed and Wetlands Hydrology	4	NTR 525	Feed Manufacturing Technology	3
FS 201	Introduction to Food Science	3	PO 322	Muscle Foods and Eggs	3
FS 290	Careers in Food and Bioprocessing Sciences	1	PO 424	Poultry Meat Production	3
FS 322	Muscle Foods and Eggs	3	PO 425	Feed Manufacturing Technology	3
FS 324	Milk and Dairy Products	3	PO 435	Poultry Incubation & Breeding	4
FS 330	Science of Food Preparation	3	PO 525	Feed Manufacturing Technology	3
FS 352	Introduction to Microbiological Food Safety Hazards	3	PP 318	Forest Pathology	3
FS 354	Food Sanitation	3	SSC 440	Geographic Information Systems (GIS) in Soil Science and Agriculture	3
FS 416	Quality Control in Food and Bioprocessing	3	SSC 462	Soil-Crop Management Systems	3
FS 421	Food Preservation	3	SSC 540	Geographic Information Systems (GIS) in Soil Science and Agriculture	3
FS 426	Upstream Biomanufacturing Laboratory	2	TE 466	Polymeric Biomaterials Engineering	3
FS 435	Food Safety Management Systems	3	TE 467	Mechanics of Tissues & Implants Requirements	3
FS 453	Food Laws and Regulations	3	TE 566	Polymeric Biomaterials Engineering	3
FS 462	Postharvest Physiology	3	VMP 401	Poultry Diseases	4
FS 475	Problems and Design in Food and Bioprocessing Science	3	VMP 420	Disease of Farm Animals	3
FS 516	Quality Control in Food and Bioprocessing	3	Group C - Applied Sci & Tech		
FS 521	Food Preservation	3	AEC 419	Freshwater Ecology	4
FS 526	Upstream Biomanufacturing Laboratory	2	AEC 423	Introduction to Fisheries Sciences Laboratory	1
FS 535	Food Safety Management Systems	3	AEC 519	Freshwater Ecology	4
FS 553	Food Laws and Regulations	3	ANS 322	Muscle Foods and Eggs	3
FS 562	Postharvest Physiology	3	ANS 425	Feed Manufacturing Technology	3
FW 221	Conservation of Natural Resources	3	ANS 525	Feed Manufacturing Technology	3
FW 311	Piedmont Wildlife Ecology and Management	3	BAET 323	Water Management	3
FW 312	Fisheries Techniques and Management	1	BIO 227	Understanding Structural Diversity through Biological Illustration	3
FW 313	Mountain Wildlife Ecology and Management	1	BME 217	Biomedical Electronics Laboratory	1
FW 314	Coastal Ecology and Management	1	BME 298	Biomedical Engineering Design and Manufacturing I	2
FW 353	Wildlife Management	3	BME 398	Biomedical Engineering Design and Manufacturing II	2
FW 403	Urban Wildlife Management	3	CS 470	Advanced Turfgrass Pest Management	2
FW 411	Human Dimensions of Wildlife and Fisheries	3	CSSC 490	Senior Seminar in Crop Science and Soil Science	1
FW 453	Principles of Wildlife Science	4	ENT 470	Advanced Turfgrass Pest Management	2
FW 460	International Wildlife Management and Conservation	3	FM 425	Feed Manufacturing Technology	3
FW 465	African Ecology and Conservation	4	FM 525	Feed Manufacturing Technology	3
FW 511	Human Dimensions of Wildlife and Fisheries	3	FOR 318	Forest Pathology	3
FW 560	International Wildlife Management and Conservation	3	FOR 420	Watershed and Wetlands Hydrology	4
FW 565	African Ecology and Conservation	4	FOR 472	Forest Soils	4
GPH 201		3	FOR 520	Watershed and Wetlands Hydrology	4
HS 432	Introduction to Permaculture	3			
HS 462	Postharvest Physiology	3			
HS 532	Introduction to Permaculture	3			

FS 322	Muscle Foods and Eggs	3
FS 435	Food Safety Management Systems	3
FS 462	Postharvest Physiology	3
FS 535	Food Safety Management Systems	3
FS 562	Postharvest Physiology	3
FW 221	Conservation of Natural Resources	3
FW 404	Wildlife Habitat Management	3
FW 460	International Wildlife Management and Conservation	3
FW 560	International Wildlife Management and Conservation	3
HS 200	Home Horticulture	3
HS 201	The World of Horticulture: Principles and Practices	3
HS 203	Home Plant Propagation	3
HS 242	Landscape Design Introduction	3
HS 250	Home Landscape Design: Creating Garden Spaces	3
HS 252	Landscape Design Graphic Communication	2
HS 272	Landscape Design/Build	6
HS 290	Horticulture: Careers and Opportunities	1
HS 301	Plant Propagation	4
HS 302	Gardening with Herbaceous Perennials	3
HS 303	Ornamental Plant Identification I	3
HS 304	Ornamental Plant Identification II	3
HS 357	Landscape Design Grading and Drainage	4
HS 400	Residential Landscaping	6
HS 411	Nursery Management	3
HS 416	Landscape Planting Design	4
HS 421	Temperate-Zone Tree Fruits: Physiology and Culture	3
HS 422	Small Fruit Production	3
HS 431	Vegetable Production	4
HS 440	Greenhouse Management	3
HS 442	Floriculture Crop Production	3
HS 462	Postharvest Physiology	3
HS 471	Landscape Ecosystem Management	4
HS 516	Landscape Planting Design	4
HS 521	Temperate-Zone Tree Fruits: Physiology and Culture	3
HS 562	Postharvest Physiology	3
IDS 303	Humans and the Environment	3
NR 300	Natural Resource Measurements	4
NR 303	Humans and the Environment	3
NR 400	Natural Resource Management	4
NR 420	Watershed and Wetlands Hydrology	4
NR 421	Wetland Science and Management	3
NR 460	Renewable Natural Resource Management and Policy	3
NR 484	Environmental Impact Assessment	4
NR 500	Natural Resource Management	4
NR 520	Watershed and Wetlands Hydrology	4
NR 521	Wetland Science and Management	3

NR 560	Renewable Natural Resource Management and Policy	3
NTR 425	Feed Manufacturing Technology	3
NTR 525	Feed Manufacturing Technology	3
PO 201	Poultry Science and Production	3
PO 201A	Poultry Science and Production	3
PO 202	Poultry Science and Production Laboratory	1
PO 202A	Poultry Science and Production Laboratory	1
PO 290	Exploring Opportunities in Poultry Science	1
PO 322	Muscle Foods and Eggs	3
PO 340	Live Poultry and Poultry Product Evaluation, Grading, and Inspection	3
PO 410	Production and Management of Game Birds in Confinement	3
PO 411	Agrosecurity	3
PO 421	Commercial Egg Production	3
PO 425	Feed Manufacturing Technology	3
PO 433	Poultry Processing and Products	3
PO 525	Feed Manufacturing Technology	3
PO 533	Poultry Processing and Products	3
PP 315	Principles of Plant Pathology	4
PP 318	Forest Pathology	3
PP 470	Advanced Turfgrass Pest Management	2
SSC 185	Land and Life	3
SSC 341	Soil Fertility and Nutrient Management	3
SSC 342	Soil and Plant Nutrient Analysis	1
SSC 421		3
SSC 440	Geographic Information Systems (GIS) in Soil Science and Agriculture	3
SSC 442	Soil and Environmental Biogeochemistry	3
SSC 452	Soil Classification	4
SSC 461	Soil Physical Properties and Plant Growth	3
SSC 462	Soil-Crop Management Systems	3
SSC 470	Wetland Soils	3
SSC 540	Geographic Information Systems (GIS) in Soil Science and Agriculture	3
SSC 570	Wetland Soils	3
TOX 201	Poisons, People and the Environment	3
TOX 401	Principles of Toxicology	4
TOX 415	Ecotoxicology	4
TOX 501	Principles of Toxicology	4
GOH 201	Foundations of Global One Health	3

Semester Sequence

This is a sample.

First Year

Fall Semester		Hours
ALS 103	First-year Success in Agriculture and Life Sciences	1
ANS 150 & ANS 151	Introduction to Animal Science and Introduction to Animal Science Lab ¹	4
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4

ENG 101	Academic Writing and Research ¹	4
MA 107	Precalculus I ¹	3
Hours		16

Spring Semester

CH 101	Chemistry - A Molecular Science ¹	3
CH 102	General Chemistry Laboratory	1
Animal Science Course (p. 2)		3
Select one of the following:		3

MA 114	Introduction to Finite Mathematics with Applications	
MA 121	Elements of Calculus	
MA 131	Calculus for Life and Management Sciences A	

BIO 183	Introductory Biology: Cellular and Molecular Biology	4
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GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
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Hours		15
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Second Year**Fall Semester**

ANS 205 & ANS 206	Physiology of Domestic Animals and Anatomy of Domestic Animals Lab	4
ANS 215	Agricultural Genetics	3
Economics Course (p. 1)		3
CH 221 & CH 222 or CH 220	Organic Chemistry I or Introductory Organic Chemistry	4
Communications Course (p. 1)		3

Hours		17
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Spring Semester

ANS 220	Reproductive Physiology	3
ANS 221	Reproductive Physiology Lab	1
Business Management or Marketing Elective (p. 1)		3
ST/BUS 350 or ST 311	Economics and Business Statistics or Introduction to Statistics	3
GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1

Hours		14
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Third Year**Fall Semester**

ANS 230 & ANS 231	Animal Nutrition and Animal Nutrition Lab	4
PY 131	Conceptual Physics	4
Business/Economics Elective (p. 3)		3
Free Elective ²		3

Hours		14
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Spring Semester

CALS Group A, B, or C Electives (p. 4)		5
Business/Economics Elective (p. 3)		3
Animal Science Course (p. 2)		2

GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		6
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Hours		16
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Fourth Year**Fall Semester**

ANS Animal Management Elective (p. 1)		3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		5
Free Elective ²		3
CALS Group A, B, or C Elective (p. 4)		3

Hours		14
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Spring Semester

ANS Discipline Course Elective (p. 2)		3
ANS Animal Management Elective (p. 1)		3
GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
Free Elective ²		2
CALS Group A,B, or C Elective (p. 4)		3

Hours		14
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Total Hours		120
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¹ ANS 150 Introduction to Animal Science, MA 107 Precalculus I, ENG 101 Academic Writing and Research, and CH 101 Chemistry - A Molecular Science must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.

² Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free electives.

Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.

Career Opportunities

Career Titles

- Agricultural Research Technician
- Animal Breeder
- Agricultural Inspector
- Agricultural/Farm Manager
- Sales Representative of Animal Health/Animal Products

Learn More About Careers

NCCareers.org (<https://nccareers.org/>)

Explore North Carolina's central online resource for students, parents, educators, job seekers and career counselors looking for high quality job and career information.

Occupational Outlook Handbook (<https://www.bls.gov/ooh/>)

Browse the Occupational Outlook Handbook published by the Bureau of Labor Statistics to view state and area employment and wage statistics.

You can also identify and compare similar occupations based on your interests.

Career One Stop Videos (<https://www.careeronestop.org/>)

View videos that provide career details and information on wages, employment trends, skills needed, and more for any occupation.

Sponsored by the U.S. Department of Labor.

Focus 2 Career Assessment (<https://careers.dasa.ncsu.edu/explore-careers/career-assessments/>) (NC State student email address required)

This career, major and education planning system is available to current NC State students to learn about how your values, interests, competencies, and personality fit into the NC State majors and your future career. An NC State email address is required to create an account. Make an appointment with your career counselor (<https://careers.dasa.ncsu.edu/about/hours-appointments/>) to discuss the results.

Focus 2 Apply Assessment (<https://www.focus2career.com/Portal/Register.cfm?SID=1929>) (Available to prospective students)

A career assessment tool designed to support prospective students in exploring and choosing the right major and career path based on your unique personality, interests, skills and values. Get started with Focus 2 Apply and see how it can guide your journey at NC State.