

Animal Science Major

INDUSTRY EMPHASIS

LIBERAL EDUCATION REQUIREMENTS

8 Credits (min. 2 courses)

Biological Science with Lab

Physical Science with Lab

12 Credits (6 credits in each area)

Social Sciences, Arts and Humanities (1 literature, 1 in "other")

18 Credits (3 credits in each area)

Historical Perspective, Cultural Diversity, International Perspective, Environment, Citizenship and Public Ethics, Mathematical Thinking

FOUNDATION COURSES

ApEc	1101	Principles of Microeconomics (3)	F, S
Biol	1009	General Biology (4)	F, S, SS
Writ	1301	University Writing (4) <i>(by placement)</i>	F, S
or Writ	1401	University Writing (4) <i>(by placement)</i>	F, S
Comm	1101	Intro. to Public Speaking (3)	F, S, SS
Writ	3562W	Technical & Prof. Writing (4)	F, S
<i>(This class counts as two upper division writing intensive courses)</i>			
Math	1031	College Algebra (3)	F, S, SS
or Math	1142	Short Calculus (4)	F, S, SS
or Math	1271	Calculus I &/or Math 1272 (4)	F, S, SS
or Math	1281	Calculus I &/or Math 1282 (4)	F, S

PROFESSIONAL COURSES

AnSc	1001	Orientation to Animal Science (1)	F
AnSc	1101	Introductory Animal Science (4)	S
AnSc	2211	Biometrics for Livestock (3)	S
AnSc	2401	Animal Nutrition (3)	F
AnSc	3221	Animal Breeding (4)	F
AnSc	3301	Systemic Physiology (4)	F
AnSc	4096	Prof. Ext Program: Internship (3)	F, S, SS
or CFAN	4009W	Undergrad Research Thesis (6)	F, S, SS

REQUIRED COURSEWORK

ApEc	1102	Principles of Macroeconomics (3)	S
ApEc	1251	Principles of Accounting (3)	F
Chem	1011	General Principles of Chemistry (4)	F, S, SS
BioC	2011	Biochem for Ag & Health Sci (3)	F, S
Writ	1152W	Writing on Issues S & T (4)	F, S
or Writ	3257	Sci. and Tech Presentations (3)	F, S, SS
Comm	3411	Intro. to Small Group Presentations (3)	F, S, SS

Choose 3 courses from this group:

ApEc	3001	Applied Microeconomics (4) <i>(Calculus required)</i>	F, S
ApEc	3002	Applied Microeconomics (4) <i>(Prerequisite: ApEc 3001)</i>	F, S
ApEc	3411	Commodity Marketing (3)	F
ApEc	3811	Principles of Farm Mgmt (3)	S
ApEc	3821	Retail Center Mgmt (3)	S
ApEc	4451W	Food Marketing Economics (3)	F
ApEc	4821W	Agribusiness Mgmt (5) <i>(Prerequisite: ApEc 3002)</i>	S

Choose 1 course from this group:

ApEc	3451	Food and Agricultural Sales (3)	S
ApEc	3501	Agribusiness Finance (3)	F
BIE	3061	Professional Sales Mgmt (3)	S
JOUR	3201	Princ. of Strategic Com. Adver.(3)	F, S

Choose a minimum 12 credits from this group:

Animal Science Elective Courses (not used to fulfill other requirements)
and/or

Agro	1103	Crops, Env, & Society (4)	F
FScN	1102	Food: Safety, Risks & Tech. (3)	F, S
Soil	2125	Basic Soil Science (4)	F, S

Choose 1 course from this group:

(except for Equine Management: students must take both AnSc 2055 & AnSc 3007):

AnSc	4601	Pork Prod. Systems Mgmt (4)	S
AnSc	4602	Sheep Prod. Systems Mgmt (4)	S
AnSc	4603	Beef Prod. Systems Mgmt (4)	S
AnSc	4604	Dairy Prod. Systems Mgmt (4)	S
AnSc	4605	Poultry Prod. Systems Mgmt (4)	F
VCS	4606	Small Animal Mgmt (3)	S
AnSc	3007	Equine Nutrition (3)	S
<i>and</i> AnSc	2055	Horse Health Management (2)	F

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PRODUCTION EMPHASIS

LIBERAL EDUCATION REQUIREMENTS

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18 Credits (3 credits in each area)

Historical Perspective, Cultural Diversity, International Perspective, Environment, Citizenship and Public Ethics, Mathematical Thinking

FOUNDATION COURSES

ApEc	1101	Principles of Microeconomics (3)	F, S
Biol	1009	General Biology (4)	F, S, SS
Writ	1301	University Writing (4) <i>(by placement)</i>	F, S
or Writ	1401	University Writing (4) <i>(by placement)</i>	F, S
Comm	1101	Intro. to Public Speaking (3)	F, S, SS
Writ	3562W	Tech. & Prof. Writing (4)	F, S, SS
<i>(This class counts as two upper division writing intensive courses)</i>			
Math	1031	College Algebra (3)	F, S, SS
or Math	1142	Short Calculus (4)	F, S, SS
or Math	1271	Calculus I &/or Math 1272 (4)	F, S, SS
or Math	1281	Calculus I &/or Math 1282 (4)	F, S

PROFESSIONAL COURSES

AnSc	1001	Orientation to Animal Science (1)	F
AnSc	1101	Introductory Animal Science (4)	S
AnSc	2211	Biometrics for Livestock (3)	S
AnSc	2401	Animal Nutrition (3)	F
AnSc	3221	Animal Breeding (4)	F
AnSc	3301	Systemic Physiology (4)	F
AnSc	4096	Prof. Ext Program: Internship (3)	F, S, SS
Or CFAN	4009W	Undergrad Research Thesis (6)	F, S, SS

REQUIRED COURSEWORK

AnSc	1511	Food Animal Products (3)	F
AnSc	3609	Animal Production Systems (2)	F
Chem	1011	General Principles of Chemistry (4)	F, S, SS
BioC	2011	Biochem for Ag & Health Sci (3)	F, S

Choose 22 Credits:

Animal Science Elective Courses (not used to fulfill other requirements) and/or any of the below courses:

AFEE	2051	Current Tech. Competencies (3)	F
Agro	1103	Crops, Env, & Society (4)	F
<i>(Agro 1103 is required for dairy, beef, swine, sheep & poultry options)</i>			
ApEc	1251	Principles of Accounting (3)	F
ApEc	3411	Commodity Marketing (3)	F
ApEc	3451	Food and Agricultural Sales (3)	S
ApEc	3811	Principles of Farm Mgmt (3)	S
Soil	2125	Basic Soil Science (4)	F, S
VBS	2032	General Microbiology (4)	F, S

Choose 1 of the following options:

Dairy

AnSc	4403	Ruminant Nutrition (3)	S
AnSc	4011	Dairy Cattle Breeding (3)	S
AnSc	4604	Dairy Prod. Systems Mgmt (4)	S
AnSc	4614	Adv. Dairy Prod Systems Mgmt (2)	S

Beef

AnSc	2012	Livestock & Carcass Evaluation (3)	S
AnSc	4403	Ruminant Nutrition (3)	S
AnSc	4603	Beef Prod. Systems Mgmt (4)	F
AnSc	4613	Adv. Beef Prod Systems Mgmt (2)	F

Sheep

AnSc	2012	Livestock & Carcass Evaluation (3)	S
AnSc	4403	Ruminant Nutrition (3)	S
AnSc	4602	Sheep Prod. Systems Mgmt (4)	S

Swine

AnSc	2012	Livestock & Carcass Evaluation (3)	S
AnSc	4401	Swine Nutrition (3)	F
AnSc	4601	Pork Prod. Systems Mgmt (4)	S
AnSc	4611	Adv. Pork Prod Systems Mgmt (2)	S

Equine

AnSc	2055	Horse Health Mgmt (2)	F
AnSc	3007	Equine Nutrition (3)	S
AnSc	3052	Equine Anatomy & Physiology (4)	F
VPM	3700	Equine Reprod. & Brdng Mgmt (2)	S

Companion Animal

AnSc	1403	Comp. Animal Nut. and Care(3)	S
VCS	4600	Small Animal and Equine Behav.(3)	F
VCS	4606	Small Animal Mgmt. (3)	S

Plus 3 credits to be determined in consultation with advisor

Poultry

AnSc 4605 Poultry Prod. Systems Mgmt (4) F
At least 3 Poultry courses from the Midwest Poultry Consortium Summer Program at Madison, WI. Courses cannot double count for requirements in this section and professional requirements. Contact advisor for more information.

Individualized Option (12 Credit Minimum)

Courses may be selected according to the students' interests *in consultation* with the students' advisor and with approval of the Animal Production Systems Committee.

Animal Science Major

PRE-VET EMPHASIS

LIBERAL EDUCATION REQUIREMENTS

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Physical Science with Lab

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FOUNDATION COURSES

ApEc	1101	Principles of Microeconomics (3)	F, S
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or Math	1142	Short Calculus (4)	F, S, SS
or Math	1271	Calculus I &/or Math 1272 (4)	F, S, SS
or Math	1281	Calculus I &/or Math 1282 (4)	F, S
<i>(calculus is required in the biotechnology option)</i>			

PROFESSIONAL COURSES

AnSc	1001	Orientation to Animal Science (1)	F
AnSc	1101	Introductory Animal Science (4)	S
AnSc	2211	Biometrics for Livestock (3)	S
AnSc	2401	Animal Nutrition (3)	F
AnSc	3221	Animal Breeding (4)	F
AnSc	3301	Systemic Physiology (4)	F
AnSc	4096	Prof. Ext Program: Internship (3)	F, S, SS
or CFAN	4009W	Undergrad Research Thesis (6)	F, S, SS

REQUIRED COURSEWORK

Students in the Science/Pre-Vet emphasis must choose *either* the Basic Science or Biotechnology option of study.

Chem	1021	Chemistry Principles I (4)	F, S, SS
Chem	1022	Chemistry Principles II (4)	F, S, SS
Chem	2301	Organic Chemistry I (3)	F, S, SS
Chem	2311	Organic Chemistry Lab (4)	F, S, SS
<i>(prereq Chem 2302 or concurrent enrollment, may take 2302 S-N)</i>			
BioC	3021	Biochemistry (3)	F, S
GCD	3022	Genetics <i>(ONLY for Basic Sci. Option)</i> (3)	F, S
or Biol	4003	Genetics <i>(ONLY for Biotech Option)</i> (3)	F, S
VBS	2032	Microbiology with Lab (4)	F, S, SS

and choose one of the following pairs

Phys	1101W	Introductory College Physics I (4)	F, S, SS
Phys	1102W	Introductory College Physics II (4)	S
or			
Phys	1201W	Intro Physics: Pre-Med & Bio I (5)	F, S, SS
Phys	1202W	Intro Physics: Pre-Med & Bio II (5)	F, S, SS

Basic Science Option:

Choose **12 Credits** (minimum) of Animal Science Electives (Students must take 6 credits of 1xxx-2xxx level courses and 6 credits of 3xxx-4xxx level courses)

Choose 1 Course from this group

(except for Equine Management: students must take *both* AnSc 2055 & AnSc 3007):

AnSc	4601	Pork Prod. Systems Mgmt (4)	S
AnSc	4602	Sheep Prod. Systems Mgmt (4)	S
AnSc	4603	Beef Prod. Systems Mgmt (4)	F
AnSc	4604	Dairy Prod. Systems Mgmt (4)	S
AnSc	4605	Poultry Prod. Systems Mgmt (4)	F
VCS	4606	Small Animal Mgmt (3)	S
AnSc	2055	Horse Health Management (2)	F
and AnSc	3007	Equine Nutrition (3)	S

Biotechnology Option:

(1 semester of calculus required in this option)

CFAN	1501	Biotech, People & Environment (3)	S
AnSc	3509	Animal Biotechnology (3)	S

Choose 11 Credits *(at least 2 credits must be a laboratory)*

AnSc	3511	Animal Growth & Development (3)	S
AnSc	3305	Repro Bio in Health & Disease (4)	F
Biol	4004	Cell Biology (3)	F, S
BioC	4025	Laboratory in Biochemistry (2)	F, S
BioC	4125	Lab: Molecular & Cellular Bio (3)	S
BioC	5001	Biochem., Mol & Cellular Bio (5)	F
GCD	4015	Genetics Laboratory (2)	F
GCD	4025	Cell Biology Laboratory (2)	S
GCD	4034	Molecular Genetics (3)	S
GCD	4143	Human Genetics (3)	S
GCD	4151	Molecular Biology of Cancer (3)	F
GCD	4161	Developmental Biology (3)	S
GCD	5036	Molecular Cell Biology (3)	F
MicB	3301	Biology of Microorganisms (5)	F, S
MicB	4131	Immunology (3)	F, S
MicB	4141W	Bio Genetics & Patho. Viruses (3)	S
MicB	4151	Mol & Genetic Micro Diseases (3)	S
MicB	4235	Virology, Immun. & Micro. Genetics (3)	S

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ELECTIVE COURSES (CLASSES CANNOT FULFILL REQUIREMENTS IN TWO AREAS)

AnSc 1007	(2)	F	Horse in Your Backyard
AnSc 1011	(3)	F	Animals and Society
AnSc 1021	(1)	S	Avian Sampler
AnSc 1403	(3)	S	Companion Animal Nutrition & Care
AnSc 1511	(3)	F	Food Animal Products for Consumers
AnSc 2012	(3)	S	Livestock and Carcass Evaluation
AnSc 2055	(2)	F	Horse Health Management
AnSc 3007	(3)	S	Equine Nutrition
AnSc 3052	(4)	F	Equine Anatomy & Exercise Physiology
AnSc 3203W	(3)	S	Environment Global Food Production & the Citizen
AnSc 3305	(4)	F	Reproductive Biology in Health & Disease
AnSc 3307	(1)	F,S	Artificial Insemination Techniques
AnSc 3501	(3)	S	Farm Animal Environment
AnSc 3509	(3)	S	Animal Biotechnology
AnSc 3511	(3)	S	Animal Growth and Development
AnSc 3521	(3)	F	Biotech. Appl. in Pharmaceutical Research & Development
AnSc 3609	(2)	F	Animal Production Systems
AnSc 3801	(3)	S	Livestock Merchandising
AnSc 4011	(3)	S	Dairy Cattle Breeding
AnSc 4401	(3)	F	Swine Nutrition
AnSc 4403	(3)	S	Ruminant Nutrition
AnSc 4404	(2)	F	Applied Dairy Nutrition
AnSc 4601	(4)	S	Pork Production Systems Management
AnSc 4602	(4)	S	Sheep Production Systems Management
AnSc 4603	(4)	F	Beef Production Systems Management
AnSc 4604	(4)	S	Dairy Production Systems Management
AnSc 4605	(4)	F	Poultry Production Systems
AnSc 4611	(2)	S	Advanced Pork Prod Systems Management
AnSc 4613	(2)	F	Advanced Beef Prod Systems Management
AnSc 4614	(2)	S	Advanced Dairy Prod Systems Management
CFAN 1501	(3)	S	Biotechnology, People & the Environment
Ent 3281	(3)	F	Veterinary Entomology
VPM 3502	(3)	F	Animal Health and Disease
VPM 3700	(2)	S	Equine Reproduction and Breeding Management
VCS 4600	(3)	F	Small Animal and Equine Behavior
VCS 4606	(3)	S	Small Animal Management

Midwest Poultry Consortium Summer Courses—Madison, WI (see advisor for more information)