# Department of Animal Science (ANSC) – B.S. Degree Required Courses

The Department of Animal Science offers six areas of interest within the ANSC B.S. degree program: *Pre-Vet/Pre-Grad, Animal Biotechnology, Food Science, Equine Science, Business and Production.* Only required courses are listed below; please refer to the Undergraduate Catalog for additional ANSC courses offered.

Note: See pages 2 and 3 for courses recommended for each Area of Interest. ANSC required courses are listed on page 4.

**Typical scheduling for ANSC required courses.** Required courses fill quickly; students unable to enroll in a given semester should register for the course as soon as possible.

# ANSC Group A - Example of Eight Semester Schedule

#### **First Semester**

ANSC 1001 Introduction to Animal Sciences

BIOL 1107 Principles of Biology I

Then add courses in: ENGL, UNIV (FYE & LC), GERs (General Education Requirements)

#### Third Semester

PVS 2100 Anatomy and Physiology of Animals

ANSC 3121 Principles of Animal Genetics

Then add courses in: CHEM, ANSC Group B/C, GERs (General Education Requirements)

#### **Fifth Semester**

Then add courses in: CHEM, ANSC Group B/C, GERs (General Education Requirements)

# **Second Semester**

ANSC 1111 Principles of Animal Nutrition and Feeding

BIOL 1108 Principles of Biology II

Then add courses in: CHEM, ENGL, GERs (General Education Requirements)

#### **Fourth Semester**

ANSC3122 Reproductive Physiology

ANSC 3194 Seminar

Then add courses in: CHEM, ANSC Group B/C, GERs (General Education Requirements)

#### **Sixth Semester**

ANSC Group B/C, GERs (General Education Requirements)

#### **Seventh and Eighth Semesters**

Complete ANSC Group B/C and ANSC W Requirements

#### Pre-Vet/Pre-Grad, Biotechnology or Food Science interest:

(Complete as scheduled above or as soon as possible)

Required: ENGL 1010 or 1011 or 2011 (only one course required)

CHEM 1127Q, 1128Q, 2443, 2444, 2445 (2445 Organic Lab is required for Pre-Vet)

Recommended for Freshmen in their first semester:

UNIV 1810 (ANSC Learning Community) or UNIV 1800 or UNIV 1820

# • Equine, Business or Production interest:

(Complete as scheduled above or as soon as possible)

Required: ENGL 1010 or 1011 or 2011 (only one course required)

CHEM 1122, 2241

Recommended for Freshmen in their first semester:

UNIV 1810 (FYE; ANSC Learning Community) or UNIV 1800 or UNIV 1820

# **ANSC Group B, C and W courses:**

Group B Fall: ANSC 2251, 3261, 3273 Spring: ANSC 2251, ANSC 2271, 3272 Group C Fall: ANSC 3313, 3323, 3343, 4311 Spring: ANSC 3311, 3316, 3641, 4341

W Courses Fall: ANSC 3314W, 3324W, 3344W, 4312W Spring: ANSC 3312W 3317W, 3642W, 4342W, 4662W

Note that 1 cr. W courses are taken concurrently with associated Group C lecture course.

# Department of Animal Science (ANSC) Recommended Sequence of Courses Pre-Vet/Pre-Grad, Biotechnology or Food Science Interest

The following courses are recommended for specific interests. Note that completion of additional courses beyond these recommendations will be necessary to meet additional University requirements, such as a minimum of 120 credits to complete a B.S. degree. Courses are listed in approximate chronological order in order to incorporate pre-requisite requirements; when pre-reqs are not involved more latitude in semester scheduling can be incorporated into academic progress.

If you are interested in Pre-Vet/Pre-Grad, recommended courses are\*:

				Recommended
Course			Credits	Semester
COMM	1100	Principles of Public Speaking	3	1 or 2
MATH	1131Q	Calculus I	4	1 or 2
MATH	1132Q	Calculus II	4	2 or 3
PHYS	1201Q	General Physics	4	1 or 2
PHYS	1202Q	General Physics	4	2 or 3
MCB	2610	Fundamentals of Microbiology	4	5 or 6
ANSC	3313	Growth Biology and Metabolism of Domestic Anima	als 3	5 or 7
ANSC	3323	Animal Embryology and Biotechnology	3	5 or 7
ANSC	3311	Comparative Exercise Physiology	3	6 or 8
MCB	2000	Biochemistry	4	7
ANSC	3316	Endocrinology of Farm Animals	3	6 or 8

<sup>\*</sup>Check with advisor for requirements of particular veterinary schools

#### If you are interested in a **Biotechnology** focus, recommended courses are:

ANSC	1602	Behavior and Training of Domestic Animals	3	2
COMM	1100	Principles of Public Speaking	3	1 or 2
STAT	1100Q	Elementary Concepts of Statistics	4	1 or 2
MCB	2410	Genetics	3	3 or 4
MCB	2610	Fundamentals of Microbiology	4	5 or 6
MCB	2000	Introduction to Biochemistry	4	5 or 6
ANSC	3323	Animal Embryology and Biotechnology	3	5 or 7
MCB	3412	Genetic Engineering and Functional Genomics	3	5 or 7
ANSC	5619	Signaling Pathways	3	5 or 7
ANSC	2699	Independent Study (Research Project)	Var	7 or 8

# If you are interested in a **Food Science** focus, recommended courses are:

STAT	1100Q	Elementary Concepts of Statistics	4	1 or 2
NUSC	1167	Food, Culture and Society	3	1 or 3
ANSC	1645	The Science of Food	3	2 or 4
ANSC	3343	Animal Food Products	3	5 or 7
MCB	2610	Fundamentals of Microbiology	4	5 or 6
MCB	2000	Introduction to Biochemistry	4	5 or 6
NUSC	3233	Food Composition and Preparation	3	5 or 7
ANSC	3318	Probiotics and Prebiotics	3	6 or 8
ANSC	3641	Animal Food Products: Dairy Technology	3	6 or 8
ANSC	4241	Food Microbiology and Safety	3	6 or 8
ANSC	4642	Food Microbiology Laboratory (meets in even years)	1	6 or 8
ANSC	5618	Probiotics and Prebiotics	3	6 or 8
ANSC	5641	Food Chemistry	3	8

# Department of Animal Science Recommended Sequence of Courses Equine, Business or Production Interest

The following courses are recommended for specific interests. Note that completion of additional courses beyond these recommendations will be necessary to meet additional University requirements, such as a minimum of 120 credits to complete a B.S. degree. Courses are listed in approximate chronological order in order to incorporate pre-requisite requirements; when pre-reqs are not involved, more latitude in semester scheduling can be incorporated into academic progress.

If you are interested in an **Equine** focus, recommended courses are:

ii you a	re intere	sted in an <b>Equine</b> focus, recommended courses are:		Б 1.1
_			<b>.</b>	Recommended
Course		<b>5</b> 1	Credits	Semester
		Elementary Discrete Mathematics	3	1 or 2
PYSC		General Psychology I	3	1 or 2
ANSC		Behavior and Training of Domestic Animals	3	2
ANSC	2251	Horse Science	3	3 or 4
PSYC	3201	Animal Behavior	3	3 or 4
ANSC	3453	Pleasure Horse Appreciation and Use	1	3 or 5
PVS	2301	Health and Disease Management of Animals	3	4
ANSC		Horse Breeding Farm Management	3	4 or 6
ARE	3215	Business Management	3	5 or 6
ANSC		Developing the Driving Horse	2	5 or 7
ANSC		Livestock Management	4	5 or 7
ANSC		Comparative Exercise Physiology	3	6 or 8
			2	
ANSC		Light Horse Training and Management		6 or 8
ANSC		Horse Selection and Evaluation	2	6 or 8
ANSC	4457	Methods of Equitation Instruction	2	8
If you a	re intere	sted in a <b>Business</b> focus, recommended courses are	e:	
•				4 0
ECON		Principles of Macroeconomics	3	1 or 2
		Mathematics for Business and Economics	3	1 or 2
COMM		Principles of Public Speaking	3	1 or 2
STAT		Elementary Concepts of Statistics	4	1 or 2
ARE	1150	Principles of Agriculture and Resource Economics	3	2 or 3
ECON		Principles of Microeconomics	3	2 or 3
MATH	1071Q	Calculus for Business and Economics	3	2 or 3
ACCT	2001	Principles of Financial Accounting	3	3 or 4
ARE	3215	Business Management	3	5 or 6
ARE	3225	Price Analysis and Futures Trading	3	5 or 7
MKTG	3101	Introduction to Marketing Management	3	5 or 6
BLAW	3175	Legal and Ethical Environment of Business	3	5
MGMT		Managerial and Interpersonal Behavior	3	5 or 6
BLAW		Contract and Property Law	3	6
ARE	3221	Business Strategies and Policy in Food Industries	3	5 or 7
ARE	4217	Business Finance In Food and Resource Industries	3	5 or 7
ARE	4275	Managerial Economics	3	5 or 7
ARE	3260	Food Policy	3	6 or 8
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If you a	re intere	sted in a <b>Production</b> focus, recommended courses a	are:	
ECON	1201	Principles of Microeconomics	3	1 or 2
<b>ECON</b>		Principles of Macroeconomics	3	2 or 3
ANSC		Behavior and Training of Domestic Animals	3	2 or 4
ARE	1150	Principles of Agriculture and Resource Economics	3	2 or 3
PVS	2301	Health and Disease Management of Animals	3	2 or 4
ANSC		Principles of Poultry Management	3	2 or 4
ANSC		Livestock Management	4	5 or 7
ANSC		Dairy Cattle Management	3	5 or 7
ARE	4311	Advanced Nutrition	3	5 or 7
ANSC	3343	Animal Food Products	3	5 or 7
ARE			3	
	3215	Business Management Crouth Biology and Matcheliam of Domestic Animal		5 or 6
ANSC		Growth Biology and Metabolism of Domestic Animals	s 3 2	5 or 7
ANSC	3674	Livestock and Carcass Evaluation	2	6 or 8

# Animal Science Required Courses - B.S. Degree

The departmental requirements are listed in three groups, Group A (all courses required), Group B (at least one course required) and Group C (at least one course required). Further, one additional Group B or Group C course must be completed. A single class cannot be used to satisfy <u>more</u> than one degree requirement.

**Group A:** (All of the following): ANSC 1001, 1111, 3121, 3122, 3194; PVS 2100;

Biology: BIOL 1107 and 1108;

General Chemistry: CHEM 1122 or 1127Q OR CHEM 1124Q and 1125Q

Organic Chemistry: CHEM 2241 or

CHEM 2443 and 2444

One of the following: ANSC 4341, MCB 2000, MCB 2610

**Group B:** ANSC 2251, 2271, 3261, 3272, 3273

**Group C:** ANSC 3311, 3313, 3316, 3323, 3343, 3641, 4311, 4341 (unless used to fulfill Group A requirement)

#### Course Titles, credits and semester offered:

				Semester	
Group	Designation	Title	Credits	Taught	
Α	ANSC 1001	Introduction to Animal Science	3	Fall	
Α	ANSC 1111	Principles of Animal Nutrition and Feeding	3	Spring	
Α	ANSC 3121	Principles of Animal Genetics	3	Fall	
Α	ANSC 3122	Reproductive Physiology	4	Spring	
Α	ANSC 3194	Seminar	1	Spring	
A/C	ANSC 4341	Food Microbiology and Safety	3	Spring	
Α	BIOL 1107	Principles of Biology I	4	Fall, Spring	
Α	BIOL 1108	Principles of Biology II	4	Fall, Spring	
Α	CHEM 1122	Chemical Principles and Applications	4	Fall, Spring	
Α		Fundamentals of General Chemistry I	4	Fall, Spring	
Α		Fundamentals of General Chemistry II	4	Fall, Spring	
Α		General Chemistry	4	Fall, Spring	
Α	CHEM 2241	Organic Chemistry	3	Fall, Spring	
Α	CHEM 2443	Organic Chemistry	3	Fall, Spring	
Α	CHEM 2444	Organic Chemistry	3	Fall, Spring	
Α	MCB 2000	Introduction to Biochemistry	4	Fall, Spring	
Α	MCB 2610	Fundamentals of Microbiology	4	Fall, Spring	
A	PVS 2100	Anatomy and Physiology of Animals	4	Fall	
В	ANSC 2251	Horse Science	3	Fall, Spring	
В	ANSC 2271	Principles of Poultry Science	3	Spring	
В	ANSC 3261	Dairy Cattle Management	3	Fall	
В	ANSC 3272	Laboratory Animal Science	3	Fall, Spring	
В	ANSC 3273	Livestock Management	4	Fall	
С	ANSC 3311	Comparative Exercise Physiology	3	Spring	
С	ANSC 3313	Growth Biology and Metabolism of Domestic Livestock		Fall	
С	ANSC 3316	Endocrinology of Farm Animals	3	Spring	
С	ANSC 3323	Animal Embryology and Biotechnology	3	Fall	
С	ANSC 3343	Animal Food Products	3	Fall	
С	ANSC 3641	Animal Food Products: Dairy Technology	3	Spring	
С	ANSC 4311	Advanced Animal Nutrition	3	Fall	

**W Requirement:** The University requires that students complete at least one writing-intensive course in their major. All ANSC Group C courses have an associated W course. In addition, the W requirement may be satisfied by completing ANSC 4662W, Dairy Herd Management, a 3 credit course taught in Spring semester. *REVISED 03/2018*