

ANIMAL SCIENCE ACCELERATED BACHELOR'S / MASTER'S (ASBM)

B.S. in Animal Science, Science Concentration (SAS)***

Master's of Animal Science (non-thesis, MAS) - 5-year Program

Department of Animal Science, North Carolina State University, Raleigh, NC 27695-7621

Shown with General Education courses for students who entered NCSU prior to Summer 2009

	<u>Credits</u>
FRESHMAN YEAR - Fall Semester	
ALS 103 Introductory Topics in Agriculture and Life Sciences.....	1
ANS 150 Introduction to Animal Science (and lab)**	4
BIO 181* Introductory Biology: Ecology, Evolution, and Biodiversity (and lab).....	4
ENG 101 Academic Writing and Research **	4
MA 107 Precalculus I**	3
<i>Total</i>	16
FRESHMAN YEAR - Spring Semester	
CH 101 Chemistry - A Molecular Science** and CH 102 General Chemistry Laboratory.....	4
Animal Science Course ⁴	3
MA 121 Elements of Calculus <u>or</u> MA 131 Calculus for Life & Mgt Sciences A	3
BIO 183* Introductory Biology: Cellular and Molecular. Biology (and lab).	4
<i>Total</i>	14
SOPHOMORE YEAR - Fall Semester	
ANS 205 Physiology of Domestic Animals and ANS 206 Anatomy of Domestic Animals lab	4
ANS 215 Basic Agricultural Genetics <u>or</u> CALS Group A, B, or C Elective ^{5,9}	3
ARE 201 Intro to Ag & Resource Economics <u>or</u> EC 205 Fundamentals of Economics	3
CH 221 Organic Chemistry I and CH 222 Organic Chemistry I lab.....	4
Writing/Speaking Elective ³	3
<i>Total</i>	17
SOPHOMORE YEAR - Spring Semester	
ANS 220 Reproduction and Lactation in Domestic Animals (and lab)	4
CH 223 Organic Chemistry II and CH 224 Organic Chemistry II lab.....	4
ST 311 Introduction to Statistics.....	3
Animal Science Course ⁴	2
Humanities/Social Science GER Elective from list ^{2,8}	3
Physical Education Elective ¹	1
<i>Total</i>	17
JUNIOR YEAR - Fall Semester	
ANS 230 Nutrition of Domestic Animals (and lab).....	4
CH 201 Chemistry - A Quantitative Science and CH 202 Quantitative Chemistry Lab.....	4
MB 351 General Microbiology and MB 352 Microbiology Lab	4
PY 211 College Physics I (and lab).....	4
<i>Total</i>	16
JUNIOR YEAR - Spring Semester Note: Apply to the ASBM program and the Graduate School; student must have a minimum of 75 credits and a GPA of 3.50 or higher to apply.	
GN 311 Principles of Genetics <u>or</u> CALS Group A, B, or C Elective ^{5,9}	4
PY 212 College Physics II (and lab).....	4
Physical Education Elective ¹	1
Humanities/Social Science GER Elective from list ^{2,8}	3
Animal Management course (and lab) ⁷	3
<i>Total</i>	15
SENIOR YEAR - Fall Semester	
500-level Animal Science Discipline course ⁶	3
Humanities/Social Science GER Elective from list ^{2,8}	9
ST 511 Experimental Statistics for Biological Sciences I	3
<i>Total</i>	15

	<u>Credits</u>
SENIOR YEAR - Spring Semester	
500-level Animal Science Discipline course ⁶	3
Humanities/Social Science GER Elective from list ^{2,8}	3
Free Elective ⁸	3
Any 400-level courses not cross-listed with ANS or a Any 500-level course for MAS ¹²	3
<i>Total</i>	12

The student receives the B.S. in Animal Science degree at the conclusion of the Senior Year Spring Semester. **TIMELINE WARNING: Once the student receives the B.S. degree, he/she only has 12 months to finish the remaining coursework required for the Master of Animal Science (M.A.S.) degree. If the remaining coursework is not completed within a 12-month period following receipt of the B.S. degree, NONE of the courses that were taken to double-count for the B.S. and M.A.S. degree will count toward the M.A.S. degree.**

FIFTH YEAR - Fall Semester	
ANS 601 Animal Science Seminar	1
Graduate Biochemistry, Education, Economics, or Business core course ¹¹	3
500-level Animal Science Discipline course ⁶	3
Master of Animal Science graduate elective course ¹²	6
<i>Total</i>	13

FIFTH YEAR - Spring Semester	
Graduate Discipline Seminar ¹⁰	1
500-level Animal Science Discipline course ⁶	3
Master of Animal Science graduate elective courses ¹²	7
<i>Total</i>	11

GRADE WARNING: All courses taken to count for the Master of Animal Science degree, including the courses taken as an undergraduate, must have a combined GPA of 3.0 or higher. Courses taken as an undergraduate that will count toward the Master's degree must have a grade of B (not B-minus) or higher. Courses taken after the student has been admitted to the Master's program can count if the grade is a C-minus or higher, but the overall graduate GPA must be 3.0 or higher.

See: http://www.ncsu.edu/policies/academic_affairs/grades_grad/REG02.45.2.php

Minimum Credit Hours Required for B.S. degree plus Master of Animal Science: 146

Footnotes:

- * ZO 160 will fulfill the BIO 183 requirement. Students with credit for ZO 160 are not required to take BIO 181 and can replace the 4 credits of BIO 181 with any CALS Group A,B,C elective.
 - ** ANS 150, MA 107, ENG 101, and CH 101 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.
 - *** 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.
- ¹ PE 100 Series Fitness & Wellness course and one additional credit of a PE activity course are required.
- ² These courses must be selected from the **approved General Education Requirement (GER) listing** for Humanities and Social Sciences as follows: 3 credits from History; 3 credits from Literature; 3 credits from Philosophy, Religion, or Visual and Performing Arts; 3 credits from Psychology or Politics and Government or Sociology or Anthropology or Cultural Geography; 3 credits of Science Technology and Society *from a humanities and social science perspective*. The final 3 credits may be from any courses in the aforementioned categories or Humanities/Social Sciences Additional list. At least one course in the Humanities and Social Sciences must focus on a non-English speaking culture (designated with an asterisk on the GER list). **Courses must be selected from the approved GER List for each category.** This list is updated on a regular basis; check the World Wide Web at: <http://www.ncsu.edu/uap/academic-standards/ger/hss/courses.htm>

- ³ Select Advanced Writing, Communication/Speech, or **200-level or higher Foreign Language from the GER list.** See: <http://www.ncsu.edu/uap/academic-standards/ger/wrtspk/awsfcrs.htm#home>
Note: Pre-vet students should choose COM 110, COM 112, or COM 211.
- ⁴ VMP 420 or any Animal Science (ANS) course (except ANS 225, ANS 301, ANS 480, ANS 492, ANS 493) that is not fulfilling another requirement can fulfill this Animal Science Elective category.
- ⁵ Students who are planning to apply to a College of Veterinary Medicine should take BCH 451 (Principles of Biochemistry) and a business course (BUS, ARE, EC, or ACC prefix) to fill the A,B,C elective category. Many graduate schools also require Biochemistry. Other students: take any courses from the College of Agriculture and Life Sciences Group A, Group B, or Group C electives (<http://harvest.cals.ncsu.edu/index.cfm?showpage=25>).
- ⁶ Total of 12 credit hours of 500-level ANS courses is required to meet the SAS Animal Science Discipline course requirement (6 credits) as well as the MAS course requirement (additional 6 credits). Choose one course per category (each course is 3 credits):
Genetics: ANS 540, Selection of Dom. Anim. or ANS 575, Curr. Topics in Genomics & Proteomics
Nutrition: ANS 550, Applied Ruminant Nutrition or ANS(BCH) 571, Regulation of Metabolism
Physiology: ANS 530, Adv. Applied Repro. Physiology or ANS 552, Adv. Repro. Phys. & Biotech.
Additional: ANS 553, Growth & Development of Domestic Animals or ANS 554, Lactation, Milk, & Nutrition or NTR 500, Principles of Human Nutrition or a 2nd course from one of the above lists within this footnote.
- ⁷ Students must select at least one animal management course from the following list: ANS 400, Companion Animal Management; ANS 402, Beef Cattle Mgt; ANS 403, Swine Management; ANS 404, Dairy Cattle Management; ANS 408, Small Ruminant Management; ANS 410, Equine Management; or ANS 411, Management of Growing and Performance Horses.
- ⁸ Students are encouraged to take an Ethics course as part of their Humanities & Social Sci or Free Elec.
- ⁹ Students are required to take ANS 215 (Basic Ag Genetics) or GN 311(Principles of Genetics - formerly numbered GN 411). Students who choose to take both should take ANS 215 before GN 311. For students who choose to take both, ANS 215 will count as an Animal Science departmental elective or a CALS group A elective. Pre-vet students: GN 311 is a vet-school required course.
- ¹⁰ Students must select at least one Discipline Seminar: ANS 603, Reproductive Physiology Seminar; ANS 604, Animal Breeding and Genetics Seminar; NTR 601, Nutrition Seminar.
- ¹¹ Select one: AEE 521, Program Planning in Agricultural and Extension Education; AEE 523, Adult Education in Agriculture; AEE 526, Information Technologies in Agricultural and Extension Education; BCH 553, Biochemistry of Gene Expression; ANS(BCH) 571, Regulation of Metabolism; BUS 500, Strategic Management; BUS 501, Legal and Regulatory Environment in Management; BUS 590B, Management Foundations; ECG 507, Economics for Managers.
- ¹² A total of 17 credits of Master of Animal Science elective courses (that are not already meeting another requirement for the degree) are required. These courses can include 400-level courses from outside departments if the courses are not cross-listed with Animal Science (maximum of **40 6** credits at the 400-level, **and the 400-level courses that count for the MAS degree can only be taken after the BS degree is completed and the student is in the MAS program**), ANS 610 Special Topics (maximum of 3 credit hours), ANS 685 Master's Supervised Teaching (maximum of 3 credit hours), and 500- to 700-level courses in Animal Science or other approved departmental offerings. A maximum of 2 credits of Seminar (already included in this plan of work) are allowed.

Foreign Language Requirement All students are required to demonstrate proficiency in a foreign language at the FL_102 level. Proficiency may be demonstrated in any one of the following ways:

1. Two years of the same foreign language in high school with a "C" or higher in each of the two years;
2. Advanced Placement (AP) credit or Transfer Credit for FL_102;
3. Proficiency at the FL_102 level based on the NCSU Foreign Language Placement Exam.

All students not meeting the above proficiency requirements will be required to successfully complete through the FL_102 level at N.C. State University. Foreign Language 101 credit hours will not count toward graduation unless it is for a language other than the one the student is earning proficiency in.