BS in Nutrition—Animal Science major—Transition Plan

The degree plans for all Animal Science students enrolled prior to the AU 2012 will be evaluated similarly to those students currently transferring or transitioning into our major. Our current transfer or transition policy surrounding the quarter to semester conversion is based on the following principles:

· Each semester program requirement may be met either by taking an appropriate semester course (or sequence), or by substituting a substantially equivalent quarter course (or sequence) for the corresponding semester course (or sequence).
· Excess equivalent credit hours resulting from such substitutions—whether positive or negative—will be credited against elective requirements.

We plan to adhere to the following University pledge that was developed for undergraduate students:

In planning and implementing its conversion from quarters to semesters for summer 2012, The Ohio State University is committed to protecting the academic progress of students. Students should find that the shift from quarters to semesters does not disrupt progress toward their degrees if they

1. decide on their major and degree within a time compatible with four-year graduation;
2. meet the standards for progress defined by their academic unit and continue to complete appropriate course loads successfully; and
3. actively develop and follow academic plans in consultation with their academic advisors.

Students completing a quarter-plus-semester degree program will receive approximately the same amount of instruction, and the changes to the calendar and to courses should only improve the quality of programs. Full-time tuition (general and instructional fees) for an academic year under semesters will not cost more than what tuition would have cost for that same year under quarters, and the change should not adversely affect students' financial aid.

To ensure that the conversion will not harm students' progress, academic units will continue to provide intentional, purposeful advising. Academic advisors will understand how the changes in courses and curricula may affect students' degree programs, will know where and how programs can be flexible, and will be prepared to assist students in planning their remaining semesters to graduation. Good planning around a student's major will be particularly important, and the university will provide that support to students who begin their academic career under quarters and complete it under semesters.

RECOMMENDED SEMESTER COURSE PLAN FOR B.S. IN NUTRITION
ANIMAL SCIENCE MAJOR

FIRST YEAR

Autumn Semester		**Spring Semester**	
FAES 1000	1	ENGLISH 110	3
MATH 1150	5	BIO 1114	4
CHEM 1210	5	CHEM 1220	5
BIO 1113	4	RURL SOC 1500 or SOCIOL 101	3
	15		**15**

SECOND YEAR

Autumn Semester		**Spring Semester**	
PHYS 1200	5	CHEM 2510	4
Writing Level 2 (2367)	3	PHYS 1201	5
ANIM SCI 3140	3	ANIM SCI 3130	3
Data Analysis (2260)	3	AED ECON 2001 or ECON 2001	3
HUMN NUT/ANIM SCI ELEC	2-3		
	16-17		**15**

THIRD YEAR

Autumn Semester		**Spring Semester**	
ANIM SCI ELAB 3700	2	HISTORICAL STUDY	3
AG COMM 3130 or Comm 321	3	MICRO 4000	5
CHEM 2520	4	ANIM SCI 5032	3
LIT OR ART	3	CULTURE/IDEA/HIST	3
INTERNSHIP	2-3	HUMN NUT/ANIM SCI ELEC	2-3
	14-15		**16-17**

FOURTH YEAR

Autumn Semester		**Spring Semester**	
INTERNSHIP	2-3	LIT OR ART	3
ANIM SCI 5031	3	ANIM SCI 5070	3
BIO CHEM 4511	4	ANIM SCI 5530	3
MOLGEN 4500	3	HUMN NUT/ANIM SCI ELEC	2-3
HUMN NUT/ANIM SCI ELEC	2-3	ANIM SCI 3597	3
	14-16		**14-15**

Minimum Credit Hours Required for B.S. 121

Fiscal Unit/Academic Org	Animal Sciences - D1132
Administering College/Academic Group	Food, Agric & Environ Science
Co-adminstering College/Academic Group	Education & Human Ecology
Semester Conversion Designation	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
Current Program/Plan Name	Animal Sciences
Proposed Program/Plan Name	Animal Science
Program/Plan Code Abbreviation	ANIMSC-BSN
Current Degree Title	Bachelor of Science in Nutrition

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		75	50.0	58	8.0
Required credit hours offered by the unit	Minimum	20	13.3	17	3.7
	Maximum	26	17.3	29	11.7
Required credit hours offered outside of the unit	Minimum	50	33.3	29	4.3
	Maximum	72	48.0	41	7.0
Required prerequisite credit hours not included above	Minimum				
	Maximum				

Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table

Increase in required credit hours are as follows:
1) Per discussions with students who are currently, or have previously enrolled in this program, it was suggested to require an animal physiology course.
2) We are adding a research methods course to to be consistent with the core of the corresponding major under the B.S. in Nutrition offered by the Department of Human Nutrition
3) The current programs requires students to take either a nonruminant or ruminant nutrition course and we are proposing they take both nonruminant and ruminant nutrition to provide them greater breadth within animal nutrition.

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Program Learning Goals

- 1. Communicate effectively, both orally and in writing
- 2. Demonstrate use of reliable knowledge, sound logic, and principles of ethical decision making in problem solving situations
- 3. Students gain knowledge that contributes to wholesome, healthful, and sustainable food production
- 4. Students acquire fundamental concepts of Nutritional Physiology
- 5. Students acquire fundamental concepts of Nutrient Metabolism

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? No

DIRECT MEASURES (means of assessment that measure performance directly, are authentic and minimize mitigating or intervening factors)

Classroom assignments

- Embedded testing (i.e. specific questions in homework or exams that allow faculty to assess students' attainments of a specific learning goal)
- Other classroom assessment methods (e.g., writing assignments, oral presentations, oral exams)

Evaluation of a body of work produced by the student

- Practicum, internship or research evaluation of student work

INDIRECT MEASURES (means of assessment that are related to direct measures but are steps removed from those measures)

Surveys and Interviews

- Student survey
- Student evaluation of instruction
- Student interviews or focus groups

Additional types of indirect evidence

- Curriculum or syllabus review
- Grade review

USE OF DATA (how the program uses or will use the evaluation data to make evidence-based improvements to the program periodically)

- Analyze and discuss trends with the unit's faculty
- Analyze and report to college/school
- Make improvements in curricular requirements (e.g., add, subtract courses)
- Make improvements in course delivery and learning activities within courses
- Periodically confirm that current curriculum and courses are facilitating student attainment of program goals

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- Cover Letter from the Chair.pdf

  (Letter from Program-offering Unit. Owner: Zerby,Henry Nevin)
- Program Proposal Animal Nutrition 5-26-11.pdf

  (Program Proposal. Owner: Zerby,Henry Nevin)

Comments

- We share the B.S. in Nutrition with the Department of Human Nutrition. We have met with Human Nutrition about the proposed curriculum for this Major. We will be meeting with their academic affairs committee on June 1 to obtain concurrence for our proposed major under the B.S. in Nutrition. *(by Zerby,Henry Nevin on 05/26/2011 09:38 AM)*

Status: PENDING

PROGRAM REQUEST
Animal Science

Last Updated: Pfister,Jill Ann
06/01/2011

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Zerby,Henry Nevin	05/26/2011 09:39 AM	Submitted for Approval
Approved	Zerby,Henry Nevin	05/26/2011 09:40 AM	Unit Approval
Approved	Pfister,Jill Ann	06/01/2011 10:06 AM	College Approval
Pending Approval	Cameron,Erin Marie Soave,Melissa A	06/01/2011 10:06 AM	CAA Approval

THE OHIO STATE UNIVERSITY

Department of Animal Sciences

Office of the Chair
2029 Fyffe Road
Columbus, OH 43210-1095

Phone (614) 292-1876
Fax (614) 292-2929
E-mail Hogan.4@osu.edu

May 11, 2011

Office of Academic Affairs
203 Bricker Hall
190 North Oval Mall
Columbus, OH 43210-1358

Dear Office of Academic Affairs,

On behalf of the faculty of the Department of Animal Sciences, I am pleased to share our proposed transition plan for our curriculum for a quarter based system to a semester based system as well as the transition plans for the students who will be enrolled during the transition. The faculty embraced this as an opportunity to revise the entire Animal Sciences curriculum. The Department semester conversion process was led by Associate Professor Henry Zerby, Chair of the Academic Affairs Committee and Professor Michael Day, Chair of the Graduate Studies Committee. Jeanne Osborne, who provided staff support for the Q2S process attended the UCAT Winter Curriculum Design Institute to gain additional information regarding curriculum mapping, learning goal development and curriculum assessment. The Departmental Academic Affairs Committee initiated the discussions in the Fall of 2009 and then an Ad-hoc Q2S committee, comprised of five faculty members, was developed in early 2010 to champion the cause. The Departmental Ad-hoc committee that addressed the quarter-to-semester conversion utilized the following guiding principles:

1) Collect input from stakeholders and students regarding the current needs of graduates entering the work place or pursuing advanced degrees
2) Refine the learning goals
3) Establish or revise as necessary the curriculum to meet the learning goals while simultaneously advancing the knowledge and skills of our students
4) Develop an assessment plan that will allow us to monitor and enhance our programs

The Ad-hoc Committee began with the development of a timeline, which would culminate in the submission of the program proposal to the College of Food, Agricultural, and Environmental Sciences, in October 2010. The Ad hoc Committee began by refining the existing Program Learning Goals and desired outcomes. A series of "brown bag" meetings was established and faculty, staff and students were invited to give input regarding learning goals and participate in a systematic discussion of the existing curriculum and proposed changes. Simultaneously the curricula of peer semester

institutions was obtained and reviewed. Meetings were also held with key Department stakeholders, including those from collaborating units on the Columbus campus and the Agricultural Technical Institute in Wooster, Ohio. Semester course design was assigned to members of the Ad-hoc committee, who collaborated with current instructors in the Department. The proposed curriculum was presented formally to the entire faculty at the June 2010 faculty meeting for discussion and was approved by the faculty at the September 2010 faculty meeting.

In addition to the programs we offer within our College, we are continuing discussions with Human Nutrition regarding the Ohio State University Nutrition (OSUN) graduate program, which is a collaborative program between the Department of Food Science and Technology, the Department of Animal Sciences, and the Department of Human Nutrition, and the B.S. in Nutrition. The B.S. in Nutrition is also a collaborative program that was previously also administered among the three aforementioned departments, however, Food Science and Technology has elected to with draw from the B.S. in Nutrition, thus leaving the Department of Animal Sciences and the Department of Human Nutrition coordinating the B.S. in Nutrition.

Thus, we are submitting proposals for the following programs:

- B.S. in Agriculture - Animal Sciences Major
  - Animal Biosciences Specialization
  - Animal Industries Specialization
  - Veterinary Technology Specialization
- B.S. in Agriculture - Meat Science Major
- B.S. in Nutrition (co-program with Human Nutrition) - Animal Sciences Major
- M.S. in Animal Sciences
- Ph.D. in Animal Sciences
- Our Department also participates in the OSUN (Ohio State University Nutrition) Interdisciplinary Graduate Program (this program is being submitted by Human Nutrition)
- Minors:
  - Animal Sciences
  - Animal Nutrition
  - Equine Science
  - Animal Pre-Veterinary Medicine
  - Meat Science
- Certificate in Dairy Science

The M.S. and Ph.D. in Animal Sciences programs consist primarily of direct conversions with a couple of minor revisions. Notable changes to the B.S. programs are as follows:

<u>B.S. in Agriculture - Animal Sciences Major</u> - We have developed specializations within the Animal Sciences Major (Animal Biosciences Specialization, Animal Industries Specialization, and revision of the Veterinary Technology Specialization). Feedback obtained from stakeholders, former students, and current students also resulted in: incorporating additional emphasis on animal well-being, animal behavior, and the role of animals within our society within the introductory level Animal Sciences coursework;

adding animal health and animal immunology courses to the core curriculum; and, incorporating global awareness throughout the curriculum, including structuring the curriculum to provide additional opportunities for students to engage in study tours and study abroad experiences.

- The Animal Biosciences Specialization provides the flexibility to obtain an additional emphasis in several natural science areas for those students who are working towards continued opportunities in professional and graduate degree programs.

- The Animal Industries Specialization allows students the flexibility to obtain additional species and/or specific discipline courses, as well as additional business courses to help them pursue their career interests within the animal production and allied industries.

- The Veterinary Technology Specialization is a dual degree program, through which students who are accepted into the program receive both a BS in Agriculture from OSU and an Associate's Degree in Veterinary Technology from Columbus State Community College (CSCC). This is an existing program that was approved approximately 6-7 years ago, and approximately 5 cohorts of students have successfully completed the dual degree program. It requires course work at both OSU and CSCC. Some of the coursework that students take at CSCC as part of their Associate's degree program has been permitted to fulfill degree requirements from OSU (the internships) and some of the course work at OSU has been permitted to fulfill degree requirements from CSCC (the reproductive physiology and animal health courses as well as the anatomy course). Completion of the Veterinary Technology program replaces the FAES minor requirement, so students are not unduly burdened with this coursework on top of a minor.

  Students from OSU must apply to the program during their second year at OSU. If they are admitted, they are guaranteed seats in the Veterinary Technology program at CSCC as long as they continue to progress satisfactorily toward their degree completion at both OSU and CSCC. An Animal Sciences advisor is assigned to all students in the Veterinary Technology program. This advisor works with the students to coordinate enrollment in OSU courses required for the B.S. in Agriculture degree with CSCC courses according to a recommended plan. There is also a Veterinary Technology advisor at CSCC who works with students in this dual degree program to develop and coordinate the student's course schedule as part of the admitted cohort and assist them in scheduling CSCC courses.

The College of Food, Agricultural, and Environmental Sciences (CFAES) will requires that students complete an approved minor under the quarter system. The College will continue to require a minor or minor equivalent under the semester system. A minor equivalent has been defined as a group of courses from outside the major that meet the spirit of a minor. Within the B.S. in Agriculture, the Animal Sciences major (Animal Biosciences Specialization and Veterinary Technology Specialization) and the Meat Science major have elected to use the minor equivalent to meet the minor requirement. The CFAES Academic Affairs Committee has approved the minor equivalent for each of the specializations. Some of our students complete multiple minors and we will continue to encourage our students to do so.

B.S. in Agriculture - Meat Science – This major was developed in cooperation with the Department of Food Science and Technology, for students interested in pursuing a career focused on muscle food products. With the increasing changes in food safety, and

advances in meat processing and value-added products and associated equipment, we didn't feel there was enough flexibility to complete the necessary courses (breadth of subject material) by following either the proposed Animal Science Specializations or the B.S. in Food Science. The Meat Science major is a mixture of courses from Animal Sciences, Food Science and Technology, and Meat Science courses, which will allow students to pursue a broad based program and also focus in one of the industry related areas in meat science (growth and development, meat processing, or food safety). During the past ten years, the Animal Science Department has made a concerted effort to enhance the curriculum in the area of Meat Science. In recent years we have placed as many as 10 to 20 students each year either in the industry, or in graduate programs pursuing advanced degrees in Meat Science. Additionally, the Department has multiple endowments, which support scholarships for students interested in pursuing Meat Science, and has recently hired an additional faculty person in the meats area with a significant teaching appointment (80%). With the current and growing interest in the Meat Science program coupled with additional recruiting and available scholarships, we anticipate that approximately 20 to 25 students per year will graduate from this program during its first few years, with the enrollment growing to 40 to 50 students per year within five to six years.

B.S. in Nutrition – Animal Science – Changes in the courses offered in the OSUN program resulted in subsequent revisions to the Department of Animal Sciences program within the B.S in Nutrition. Two courses that were previously included in the animal sciences core for the major were at the 700 level. In the reorganization of the OSUN curriculum, it was decided to increase the rigor of these courses and have them offered as graduate level courses. Therefore, ANIM SCI 761 and 762 (which are transitioning to 7000 level courses) have been replaced with ANIMSCI 5070 – Nutritional Immunology in Animal Systems, and 5530 – Comparative Animal Nutrient Metabolism. ANIMSCI 5070 is the conversion of a course that was developed within the Department in 2009 (ANIM SCI 638), and the ANIMSCI 5530 is a new course that will fill a need for multiple groups of students within the Department, especially those pursuing an emphasis in nutrition, companion animal interest, or professional programs such as veterinary medicine. Additionally, a research methods course has been added (ANIM SCI 3700) to be consistent with the core of B.S. in Nutrition programs offered by Human Nutrition and students will be required to take both the ruminant (ANIM SCI 5031) and nonruminant (ANIM SCI 5032) courses. Previously, students were required to take one of the aforementioned courses, and most students selected the other course as an elective in the program, however, we are requiring both to ensure breadth within the Animal Science Major in the B.S. in Nutrition.

Proposed changes to the minors are as follows:

Animal Sciences – This minor is a straight conversion of the existing Animal Sciences Minor with the exception of adding ANIM SCI 2100 Appreciation of Companion and Production Animals. This is one of two required introductory courses for our Majors and serves as a prerequisite for the second required course.

Animal Nutrition – This minor is a straight conversion of the existing Animal Nutrition Minor with the exception of adding a relatively new course in our Department - Nutritional Immunology in Animal Systems (ANIM SCI 5070).

Equine Science – There are minor revisions proposed to the Equine Science Minor. The Equine health course has been changed to an elective within the minor rather than a required course. Additionally, a grazing course and an equine focused study abroad experience have also been included as electives in the minor.

Animal Pre-Veterinary Medicine – This is a new minor structured to provide students who are pursuing a admission to a College of Veterinary Medicine and a career in veterinary medicine through programs outside the Department of Animal Sciences an opportunity to gain additional knowledge and experience with both companion and food animal production systems, health, physiology, and behavior. This minor has been reviewed by the College of Veterinary Medicine and they have supplied a letter of concurrence in support of the minor.

Meat Science – There are minor revisions proposed to the Meat Science Minor. The Food Animal Processing course has been moved from the required category to the elective category, FDSCTE 4536 - Food Safety and FDSCTE 5310 - Food Quality Assurance (new course) have been added as electives. The graduate level growth and development course, animal health course, and microbiology have been removed as these courses were not being used by students to meet the minor, or the material is now being covered in other elective options.

We are also proposing a new program entitled Certificate in Dairy Science. This program is designed to meet the needs of students who have an interest in the dairy industry and desire additional courses, but who do not wish to complete a M.S. During the past two years we have had 5 to 10 students interested in pursuing this certificate and thus, we have offered it via a trial basis, however it was not submitted for approval by the University during the trial phase. The trial program was successful and we believe the number of interested students will increase, but realistically we estimate an annual enrollment of 5 to 15 students per year in the certificate program. As the certificate program is currently proposed, there is the option of having overlap of courses within the major (up to nine credit hours could be used as electives in the major and could also count towards the certificate). None of the courses listed in the Dairy Certificate are options within the minor equivalent of the specializations within the Animal Sciences major; as such there will be no overlap between the certificate and courses used to complete the minor requirement.

Thank you for your consideration of this program plan. Should you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Joseph Hogan
Professor and Interim Chair
Department of Animal Sciences

Program Proposal for B.S. in Nutrition: Major- Animal Sciences

The B.S. in Nutrition is a program that has been offered jointly in three departments that exist in two different colleges in the University: Department of Animal Sciences and the Department of Food Science and Technology - College of Food, Agricultural, and Environmental Sciences; and Department of Human Nutrition - College of Education and Human Ecology. In the transition from quarters to semesters, the Department of Food Science and Technology has chosen to withdraw from the program; thus, under semesters the Department of Animal Sciences and the Department of Human Nutrition will share the B.S. in Nutrition degree program. The previous and the proposed programs under the B.S. in Nutrition are outlined below.

<u>Current B.S. in Nutrition (Quarter Version)</u>
Department of Food Science
Major – Food Science

Department of Animal Sciences
Major – Animal Sciences

Department of Human Nutrition
Major –Nutrition (Pre-Health Science)

<u>Proposed B.S. in Nutrition (Semester Version)</u>
Department of Animal Sciences
Major – Animal Sciences

Department of Human Nutrition
Major –Nutrition
Specializations: Nutrition Sciences
Dietetics
Nutrition in Industry

The current Animal Sciences Major under the B.S. in Nutrition is being put forward with minimal changes to the program. These changes are a result of modifications to the graduate OSUN Program (Ohio State University Nutrition Program). Two courses that were previously included in the animal sciences major for the program were at the 700 level. In the reorganization of the OSUN curriculum, it was decided to increase the rigor of these courses for graduate level offerings. Therefore, ANIM SCI 761 and 762 (which are transitioning to 7000 level courses) have been replaced with ANIMSCI 5070 – Nutritional Immunology in Animal Systems, and 5530 – Comparative Animal Nutrient Metabolism. ANIMSCI 5070 is the conversion of a course that was developed within the Department in 2009 (ANIM SCI 638) and the ANIMSCI 5530 is a new course that will emphasize cellular and molecular nutrition across diverse animal species. This new course will examine the metabolism of nutrients, thereby complementing the preexisting required courses within the program to maintain the same degree of breadth and depth that was provided during the quarter system. Previously, students were required to take either Ruminant Nutrition (ANIM SCI 5031) or Nonruminant Nutrition (ANIM SCI 5032) and now they will be required to take both to add breadth to the core. Additionally, a research methods course has been added (ANIM SCI 3700) to be consistent with the core of the corresponding major under the B.S. in Nutrition offered by the Department of Human Nutrition. The electives within the program have been increased in credit hours to promote the incorporation of additional courses that contain an emphasis in nutrition and metabolism. An emphasis has been placed on students selecting at least some of their electives in the program from a list of Human Nutrition courses to again promote both the breadth and depth of the nutrition and nutrient metabolism content of the degree program.

The program has been developed in consultation with the Department of Human Nutrition and with administrative representatives of Academic Affairs/Resident Instruction of both the College of Food, Agricultural, and Environmental Sciences and the College of Education and Human Ecology.

Curriculum Map for B.S. in Nutrition: Major - Animal Science

	1	2	3	4	5
ANIMSCI 3130 or Hum Nut 2310 Nutrition		B	I	B	B
ANIMSCI 3140 Principles of Animal Systems Physiology		B	I	B	
ANIMSCI 3700 Applied Animal Research Methods Laboratory	I	I		B	I
ANIMSCI 5031 Ruminant Nutrition	I	I	A	I	I
ANIMSCI 5032 Nonruminant Nutrition	I	I	A	I	I
ANIMSCI 5070 Nutritional Immunology in Animal Systems		A	A	A	A
ANIMSCI 5530 Comparative Animal Nutrient Metabolism		A	A	A	A
ANIMSCI/HUMN NUT/Electives			A	A	A

B = Beginning level; I = Intermediate level; A = Advanced level

Program Learning Goals

1. Communicate effectively, both orally and in writing

2. Demonstrate use of reliable knowledge, sound logic, and principles of ethical decision making in problem solving situations

3. Students gain knowledge that contributes to wholesome, healthful, and sustainable food production

4. Students acquire fundamental concepts of Nutritional Physiology:
   - organs involved in the digestive system (across species, with emphasis on ruminant vs. nonruminant systems)
   - the influence of other body systems in relation to the digestive system
   - influence of nutritional physiology on animal health, growth, reproduction, and production efficiency

5. Students acquire fundamental concepts of Nutrient Metabolism (digestion, absorption, metabolism and functions of macro- and micro-nutrients at the tissue, cellular, and molecular levels):
   - assess nutrient needs and general comparative nutrition across animal species
   - assess feedstuffs and their nutritional contribution (both positive and negative)
   - metabolic pathways and their influence on animal health, growth, reproduction, and production efficiency

B.S. in Nutrition
Major: Animal Science
Effective Summer 2012

All students must complete two Global Issues courses. This requirement is the successor to the diamond and asterisk requirement.
All students must take a Social Diversity requirement in the GE by completing Rural Sociology 1500 or Sociology 101.

FAES 1000 or USAS 100, etc	1	Rural Soc 1500 or Sociol 101	3
Writing Level 1 (English 110)	3	AED Econ 2001 or Econ 2001	3
Writing Level 2 (ANIMSCI 2367)	3	Historical Study	3
Agr Comm 3130 or Comm 321	3	Culture and Ideas or Historical Study	3
Math 1150	5	Literature	3
Data Analysis (2260)	3	Art	3
Biological Science (BIO 1113 or 1115H)	4	Contemporary Issues (3597)	3
Biological Science (BIO 1114 or 1116H)	4	Total GE	57
Physical Science (Chem 1210)	5		
Physical Science (Chem 1220)	5	Major	
		Animal Science Core	29
		Additional Science Core	29
		Internship	2
		Free Electives	4*
		Total	121

Major 58

Animal Sciences Core

ANIMSCI 3130 or Hum Nut 2310	Nutrition	3
ANIMSCI 3140	Principles of Animal Systems Physiology	3
ANIMSCI 3700	Applied Animal Research Methods Laboratory	2
ANIMSCI 5031	Ruminant Nutrition	3
ANIMSCI 5032	Nonruminant Nutrition	3
ANIMSCI 5070	Nutritional Immunology in Animal Systems	3
ANIMSCI 5530	Comparative Animal Nutrient Metabolism	3
ANIMSCI/HUMN NUT/Electives**		9

Additional Required Core

BIOCHEM	4511	4
CHEM	2510	4
CHEM	2520	4
MICRO	509	4
MOLGEN	4500	3
PHYS	1200	5
PHYS	1201	5

*Suggest fulfilling the free elective with an Organic Chemistry Lab if student is pursuing an animal or human medicine professional degree

**Courses must have a nutrition or metabolism focus

Suggested courses from Human Nutrition to fill the electives

HUMN NUT	3313	Food in Different Cultures	2
HUMN NUT	3415	Global Nutrition Issues	2
HUMN NUT	3506	Nutrition Across the Life Span	3
HUMN NUT	4609	Macronutrient Metabolism	3
HUMN NUT	4610	Micronutrient & Phytochemical Metabolism	3

RECOMMENDED SEMESTER COURSE PLAN FOR B.S. IN NUTRITION

ANIMAL SCIENCE MAJORS

FIRST YEAR

Autumn Semester		**Spring Semester**	
FAES 1000	1	ENGLISH 110 (GE)	3
MATH 1150 (GE)	5	BIO 1114 (GE)	4
CHEM 1210 (GE)	5	CHEM 1220 (GE)	5
BIO 1113 (GE)	4	RURL SOC 1500 (GE)	3
	15		**15**

SECOND YEAR

Autumn Semester		**Spring Semester**	
PHYS 1200	5	CHEM 2510	4
ANIM SCI 2367 (GE)	3	PHYS 1201	5
ANIM SCI 3140	3	ANIM SCI 3130	3
ANIM SCI 2260 (GE)	3	AED ECON 2001 (GE)	3
HUMN NUT/ANIM SCI ELEC	2-3		
	16-17		**15**

THIRD YEAR

Autumn Semester		**Spring Semester**	
ANIM SCI LAB 3700	2	HISTORICAL STUDY (GE)	3
AG COMM 3130	3	MICRO 509	4
CHEM 2520	4	ANIM SCI 5032	3
LIT OR ART (GE)	3	CULTURE/IDEA/HIST (GE)	3
INTERNSHIP	2-3	HUMN NUT/ANIM SCI ELEC	2-3
	14-15		**15-16**

FOURTH YEAR

Autumn Semester		**Spring Semester**	
INTERNSHIP	2-3	LIT OR ART(GE)	3
ANIM SCI 5031	3	ANIM SCI 5070	3
BIO CHEM 4511	4	ANIM SCI 5530	3
MOLGEN 4500	3	HUMN NUT/ANIM SCI ELEC	2-3
HUMN NUT/ANIM SCI ELEC	2-3	ANIM SCI 3597	3
	14-16		**14-15**

Minimum Credit Hours Required for B.S. 121

RECOMMENDED QUARTER COURSE PLAN FOR B.S. IN NUTRITION

ANIMAL SCIENCES MAJORS

This model plan of study is presented as a suggested path to graduation in 4 years. Students have unique situations that may cause them to deviate from this plan. This is especially true for students who transfer into the major after their sophomore year. Nevertheless, it is important for you to consider the flow of courses, in particular the major courses. Courses that are specifically listed with (ELECTIVE) written next to the course reflect courses that should be taken if pursuing medical careers or those that are interested in pursuing graduate study in nutrition. These "elective" courses are not required courses, but they are recommended.

FIRST YEAR

AUTUMN		WINTER		SPRING		BENCHMARKS
FAES 100	1	CHEM 122	5	BIOLOGY 114	5	*Math 150, 151 &*
MATH 150	5	MATH 151 (ELECTIVE)	5	CHEM 123	5	ENGL *110 should be*
RUR SOC 105	5	BIOLOGY 113	5	ENGLISH 110	5	*completed by year*
OR SOC 101						*end.*
CHEM 121	5					
	16		**15**		**15**	**Minimum 46 hours**

SECOND YEAR

AUTUMN		WINTER		SPRING		SUMMER
ANIM SCI 330	5	CHEM 252	4	CHEM 253 (ELECTIVE)	4	
CHEM 251	4	CHEM 254	3	MOL GEN 500	5	
2nd WRITE. COURSE	5	ANIM SCI 310	5	*OR* ANIM SCI 320		
		LITERATURE	5	MICRO 509	5	
	14		**17**		**14**	**Minimum 45 hours**

THIRD YEAR

AUTUMN		WINTER		SPRING		SUMMER
CHEM 255 (ELECT)	3	HISTORY	5	CHEM 221	5	*Internship should be*
ANIM SCI 630.01	5	PHYSICS 111	5	PHYSICS 112	5	*completed by end of*
BIOCHEM 511	5	ADDITIONAL ART & HUM	5	NUTRITION ELECTIVE	5	*summer.*
						Apply to graduate
						At least 3 quarters prior to graduation
	13		**15**		**15**	**Minimum 43 hours**

If applying for admission into the medical-related colleges during Autumn Quarter of junior year, only one required course may remain Winter Quarter of the junior year.

FOURTH YEAR

AUTUMN		WINTER		SPRING		SUMMER
ANIM SCI 489	3-5	ANIM SCI 761	5	AED ECON 200 *OR* ECON 200	5	
ELECTIVE	5	ELECTIVE	5	VISUAL & PERFORMING ART	5	
CONTEMPORARY	5	AGR COMM 390	5	ELECTIVE	5	
ISSUES		*O*R COM 321				
ANIM SCI 762	5					
	18		**15**		**15**	**Minimum 48 hours**

MINIMUM TOTAL HOURS: 181

Please refer to the CFAES General Education Curriculum website at http://cfaes.osu.edu/current-students/academics-advising/majors-and-degrees/ for the major and additional important curriculum information. Students must complete two international issues courses. One must be a non-western or global course designated by an asterisk (*). The second can be another non-western or global course (*) or a western (non-US) course designated with a (♦).