# ANIMAL SCIENCES: COMPANION & EQUINE SCIENCE, BS

*for the degree of Bachelor of Science Major in Animal Sciences, Companion & Equine Science Concentration*

The companion animal and equine science concentration is designed for students intending to pursue a career in those industries generally not associated with traditional meat animal or dairy production. Students will take courses that prepare them for careers in specialized fields of animal care, animal health and animal well-being associated with zoos, kennels, research laboratories, and the racing industry.

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**Prescribed Courses including Campus General Education**

**Graduation Requirements**
Minimum hours required for graduation: 126 hours.

**University Requirements**
Minimum of 40 hours of upper-division coursework, generally at the 300 and 400 level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (https://studentcode.illinois.edu/article3/part8/3-801/) (§ 3-801) and in the Academic Catalog (http://catalog.illinois.edu/general-information/degree-general-education-requirements/).

**General Education Requirements**
Follows the campus General Education (Gen Ed) requirements (https://courses.illinois.edu/gened/DEFAULT/DEFAULT/). Some Gen Ed requirements may be met by courses required and/or electives in the program.

| Code | Title | Hours |
|---|---|---|
| Composition I | | 4-6 |
| Advanced Composition | | 3 |
| Humanities & the Arts (6 hours) | | 6 |
| Natural Sciences & Technology (6 hours) | | 6 |
| fulfilled by CHEM 102, CHEM 104, and MCB 100 | | |
| Social & Behavioral Sciences (6 hours) | | 6 |
| fulfilled by ECON 102 or ACE 100 and one more course approved as Social & Behavioral Sciences | | |
| Cultural Studies: Non-Western Cultures (1 course) | | 3 |
| Cultural Studies: US Minority Cultures (1 course) | | 3 |
| Cultural Studies: Western/Comparative Cultures (1 course) | | 3 |
| Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I) | | 6-8 |
| fulfilled by MATH 220, MATH 221, or MATH 234; and ACE 262, CPSC 241, ECON 202, PSYC 235, STAT 100, or SOC 280 | | |
| Language Requirement (Completion of the third semester or equivalent of a language other than English is required) | | 0-15 |

| Code | Title | Hours |
|---|---|---|
| **Department Foundation** | | |
| ANSC 198 | Building Habits for Success in Animal Sciences | 2 |
| Communication Option: | | 3 or 6 |
| CMN 101 | Public Speaking | |
| ALEC 115 | Let's Talk about Food, Agriculture, and the Environment | |
| CMN 111 & CMN 112 | Oral & Written Comm I and Oral & Written Comm II | |
| Calculus Option - Select one of the following: | | 4 |
| MATH 220 | Calculus | |
| MATH 221 | Calculus I | |
| MATH 234 | Calculus for Business I | |
| Statistics Option - Select one of the following: | | 3 |
| ACE 262 | Applied Statistical Methods and Data Analytics I | |
| CPSC 241 | Intro to Applied Statistics | |
| ECON 202 | Economic Statistics I | |
| PSYC 235 | Intro to Statistics | |
| STAT 100 | Statistics | |
| SOC 280 | Intro to Social Statistics | |
| CHEM 102 & CHEM 103 | General Chemistry I and General Chemistry Lab I | 4 |
| CHEM 104 & CHEM 105 | General Chemistry II and General Chemistry Lab II | 4 |
| MCB 100 & MCB 101 | Introductory Microbiology and Intro Microbiology Laboratory | 5 |
| ECON 102 | Microeconomic Principles | 3 or 4 |
| or ACE 100 | Introduction to Applied Microeconomics | |
| **Major Core** | | |
| ANSC 100 | Intro to Animal Sciences | 4 |
| ANSC 101 | Contemporary Animal Issues | 3 |
| ANSC 103 | Working With Farm Animals | 2 |
| ANSC 221 | Cells, Metabolism and Genetics | 3 |
| ANSC 222 | Anatomy and Physiology | 3 |
| ANSC 223 | Animal Nutrition | 3 |
| ANSC 224 | Animal Reproduction and Growth | 4 |
| ANSC 298 | Animal Science Careers and Professional Development | 1 |
| ANSC 398 | UG Experiential Learning (must be taken for a letter grade) | 1 |
| ANSC 498 | Integrating Animal Sciences | 2 |

| Code | Title | Hours |
|---|---|---|
| **Concentration Core** | | |
| Concentration prescribed courses. See specific requirements for the concentration listed below. | | |
| Companion Animal & Equine Science (p. 1) | | |

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|---|---|
| Food Animal Production & Management (http://catalog.illinois.edu/undergraduate/aces/animal-sciences-bs/food-animal-production-management/) | |
| Science, Pre-Veterinary & Medical (http://catalog.illinois.edu/undergraduate/aces/animal-sciences-bs/science-pre-veterinary--medical/) | |

| Code | Title | Hours |
|---|---|---|
| **Total Hours** | | **126** |

**Graduation Requirements**
Minimum hours required for graduation: 126 hours.

**University Requirements**
Minimum of 40 hours of upper-division coursework, generally at the 300 and 400 level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (https://studentcode.illinois.edu/article3/part8/3-801/) (§ 3-801) and in the Academic Catalog (http://catalog.illinois.edu/general-information/degree-general-education-requirements/).

**General Education Requirements**
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| Code | Title | Hours |
|---|---|---|
| Composition I | | 4-6 |
| Advanced Composition | | 3 |
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| Natural Sciences & Technology (6 hours) | | 6 |
| fulfilled by CHEM 102, CHEM 104, and MCB 100 | | |
| Social & Behavioral Sciences (6 hours) | | 6 |
| fulfilled by ECON 102 or ACE 100 and one more course approved as Social & Behavioral Sciences | | |
| Cultural Studies: Non-Western Cultures (1 course) | | 3 |
| Cultural Studies: US Minority Cultures (1 course) | | 3 |
| Cultural Studies: Western/Comparative Cultures (1 course) | | 3 |
| Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I) | | 6-8 |
| fulfilled by MATH 220, MATH 221, or MATH 234; and ACE 262, CPSC 241, ECON 202, PSYC 235, STAT 100, or SOC 280 | | |
| Language Requirement (Completion of the third semester or equivalent of a language other than English is required) | | 0-15 |

| Code | Title | Hours |
|---|---|---|
| **Department Foundation** | | |
| ANSC 198 | Building Habits for Success in Animal Sciences | 2 |
| Communication Option: | | 3 or 6 |
| CMN 101 | Public Speaking | |
| ALEC 115 | Let's Talk about Food, Agriculture, and the Environment | |
| CMN 111 & CMN 112 | Oral & Written Comm I and Oral & Written Comm II | |
| Calculus Option - Select one of the following: | | 4 |
| MATH 220 | Calculus | |
| MATH 221 | Calculus I | |
| MATH 234 | Calculus for Business I | |
| Statistics Option - Select one of the following: | | 3 |
| ACE 262 | Applied Statistical Methods and Data Analytics I | |
| CPSC 241 | Intro to Applied Statistics | |
| ECON 202 | Economic Statistics I | |
| PSYC 235 | Intro to Statistics | |
| STAT 100 | Statistics | |
| SOC 280 | Intro to Social Statistics | |
| CHEM 102 & CHEM 103 | General Chemistry I and General Chemistry Lab I | 4 |
| CHEM 104 & CHEM 105 | General Chemistry II and General Chemistry Lab II | 4 |
| MCB 100 & MCB 101 | Introductory Microbiology and Intro Microbiology Laboratory | 5 |
| ECON 102 | Microeconomic Principles | 3 or 4 |
| or ACE 100 | Introduction to Applied Microeconomics | |
| **Major Core** | | |
| ANSC 100 | Intro to Animal Sciences | 4 |
| ANSC 101 | Contemporary Animal Issues | 3 |
| ANSC 103 | Working With Farm Animals | 2 |
| ANSC 221 | Cells, Metabolism and Genetics | 3 |
| ANSC 222 | Anatomy and Physiology | 3 |
| ANSC 223 | Animal Nutrition | 3 |
| ANSC 224 | Animal Reproduction and Growth | 4 |
| ANSC 298 | Animal Science Careers and Professional Development | 1 |
| ANSC 398 | UG Experiential Learning (must be taken for a letter grade) | 1 |
| ANSC 498 | Integrating Animal Sciences | 2 |

| Code | Title | Hours |
|---|---|---|
| **Companion Animal and Equine Science Core** | | |
| Choose one group: ANSC 206, ANSC 250, ANSC 306, & ANSC 307 may NOT be used to meet more than one degree requirement. | | 6 |
| ANSC 250 & ANSC 307 | Companion Animals in Society and Companion Animal Management | |
| or | | |
| ANSC 206 & ANSC 306 | Horse Management and Equine Science | |
| Select two of the following Applied Sciences courses: | | 6 |
| ANSC 201 | Principles of Dairy Production | |
| ANSC 204 | | |
| ANSC 205 | World Animal Resources | |
| ANSC 206 | Horse Management | |
| ANSC 211 | Breeding Animal Evaluation | |
| ANSC 215 | Introduction to Animal Evaluation | |
| ANSC 250 | Companion Animals in Society | |
| ANSC 301 | Food Animal Production, Management, and Evaluation | |
| ANSC 305 | Human Animal Interactions | |

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| ANSC 306 | Equine Science |
| ANSC 307 | Companion Animal Management |
| ANSC 309 | Meat Production and Marketing |
| ANSC 310 | Meat Selection and Grading |
| ANSC 312 | Advanced Livestock Evaluation |
| ANSC 313 | Horse Appraisal |
| ANSC 314 | Adv Dairy Cattle Evaluation |
| ANSC 322 | Livestock Feeds and Feeding |
| ANSC 370 | Companion Animal Policy |
| ANSC 400 | Dairy Herd Management |
| ANSC 401 | Beef Production |
| ANSC 402 | Sheep and Goat Production |
| ANSC 403 | Pork Production |
| ANSC 404 | Poultry Science |
| ANSC 407 | Animal Shelter Management |
| ANSC 424 | Pet Food & Feed Manufacturing |
| ANSC 435 | Milk Quality and Udder Health |
| ANSC 470 | Companion Animal Cruelty Investigations |
| ANSC 471 | ANSC Leaders & Entrepreneurs |
| ANSC 500 | Feeds in Dairy Nutrition and Diet Formulation |
| ANSC 501 | Nutritional Impact on Cow Health and Disorders |
| ANSC 502 | What is Milk and Milk Quality |
| ANSC 580 | Artificial Intelligence and Computer Vision for Precision Management |
| Select two of the following Basic Sciences courses: | 6 |
| ANSC 251 | Epidemics and Infectious Diseases |
| ANSC 350 | Cellular Metabolism in Animals |
| ANSC 363 | Behavior of Domestic Animals |
| ANSC 366 | Animal Behavior |
| ANSC 406 | Zoo Animal Conservation Sci |
| ANSC 409 | Meat Science |
| ANSC 420 | Ruminant Nutrition |
| ANSC 421 | Minerals and Vitamins |
| ANSC 422 | Companion Animal Nutrition |
| ANSC 431 | Advanced Reproductive Biology |
| ANSC 438 | Lactation Biology |
| ANSC 440 | Applied Statistical Methods I |
| ANSC 441 | Human Genetics |
| ANSC 444 | Applied Animal Genetics |
| ANSC 445 | Statistical Methods |
| ANSC 446 | Population Genetics |
| ANSC 449 | Biological Modeling |
| ANSC 450 | Comparative Immunobiology |
| ANSC 451 | Microbes and the Anim Indust |
| ANSC 452 | Animal Growth and Development |
| ANSC 454 | Neuroimmunology |
| ANSC 460 | |
| ANSC 464 | Physiology of Animal Stress & Disease |
| ANSC 467 | Applied Animal Ecology |
| ANSC 480 | Introduction to Coding and Precision Management |
| ANSC 509 | |
| ANSC 520 | Protein and Energy Nutrition |
| ANSC 521 | Regulation of Metabolism |
| ANSC 522 | Advanced Ruminant Nutrition |
| ANSC 523 | Techniques in Animal Nutrition |
| ANSC 524 | Nonruminant Nutrition Concepts |
| ANSC 525 | Topics in Nutrition Research |
| ANSC 526 | Adv Companion Animal Nutrition |
| ANSC 533 | Repro Physiology Lab Methods |
| ANSC 541 | Regression Analysis |
| ANSC 542 | Applied Bioinformatics |
| ANSC 543 | Bioinformatics |
| ANSC 545 | |

| Code | Title | Hours |
|---|---|---|
| **Total Hours** | | **126** |

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## Sample Sequence

*This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.*

*Students must fulfill their Language Other Than English requirement by successfully completing a third level of a language other than English. For more information, see the corresponding section on the* Degree and General Education Requirements page *(*http://catalog.illinois.edu/general-information/degree-general-education-requirements/*).*

| **First Year** | | |
|---|---|---|
| **First Semester** | **Hours Second Semester** | **Hours** |
| ANSC 100 | 4 RHET 105 or CMN 101 | 4 |
| ACES 101 | 2 ANSC 101 | 3 |
| CHEM 102 | 3 CHEM 104 | 3 |
| CHEM 103 | 1 CHEM 105 | 1 |
| CMN 101 or RHET 105 | 3 MATH 234 | 4 |
| General Education course | 3 | |
| | **16** | **15** |

| **Second Year** | | |
|---|---|---|
| **First Semester** | **Hours Second Semester** | **Hours** |
| ANSC 222 | 3 ANSC 223 | 3 |
| ANSC 221 | 3 ANSC 224 | 4 |
| ANSC 103 | 2 ANSC 298 | 1 |

| | | | |
|---|---|---|---|
| STAT 100, CPSC 241, ECON 202, PSYC 235, or SOC 280 | 3 | Language Other than English (3rd level) | 4 |
| General Education course | 3 | General Education course | 3 |
| General Education course | 3 | | |
| | **17** | | **15** |

**Third Year**

| First Semester | Hours | Second Semester | Hours |
|---|---|---|---|
| Concentration Elective | 3 | ANSC 398 | 3 |
| Concentration Elective | 3 | Concentration Elective | 3 |
| MCB 100 | 3 | Concentration Elective | 3 |
| MCB 101 | 2 | ACE 100 or ECON 102 | 4 |
| General Education course | 3 | General Education course | 4 |
| Free Elective course | 3 | | |
| | **17** | | **17** |

**Fourth Year**

| First Semester | Hours | Second Semester | Hours |
|---|---|---|---|
| ANSC 498 | 2 | Concentration Elective | 3 |
| Concentration Elective | 3 | Free Elective course | 3 |
| General Education course | 3 | Free Elective course | 3 |
| Free Elective course | 3 | Free Elective course | 3 |
| Free Elective course | 3 | Free Elective course | 3 |
| | **14** | | **15** |

**Total Hours 126**

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# Animal Sciences

Animal Sciences website (https://ansc.illinois.edu/)
Animal Sciences Laboratory
1207 West Gregory Drive
Urbana, IL 61801
217-333-3131
ansc@illinois.edu

# College of Agricultural, Consumer & Environmental Sciences

College of Agricultural, Consumer & Environmental Sciences website (https://aces.illinois.edu/)

# ACES Office of Academic Programs

128 Mumford Hall
1301 West Gregory Drive
Urbana, IL 61801
217-333-3380
aces-academics@illinois.edu

# Advising

Advising Website (https://ansc.illinois.edu/about/contact-us/#paragraph--499)
217-333-3570
anscadvising@illinois.edu

# Admissions

ACES Undergraduate Admissions (https://aces.illinois.edu/admissions/)
University of Illinois Urbana-Champaign Undergrad Admissions (https://www.admissions.illinois.edu/)
217-333-3380
visitACES@illinois.edu