

B.Sc. in Agriculture (Animal Systems)

Year 1

| Course No. | Course Name | Credit Hours |
|----------------------------|--|--------------|
| ABIZ 1000 | Introduction to Agribusiness Management | 3 |
| AGRI 1600 | Introduction to Agrifood Systems | 3 |
| BIOL 1020 | Biology 1: Principles and Themes | 3 |
| BIOL 1030 | Biology 2: Biological Diversity, Function and Interactions | 3 |
| CHEM 1100 | Introductory Chemistry 1: Atomic and Molecular Structure and Energetics | 3 |
| CHEM 1110 | Introductory Chemistry 2: Interaction, Reactivity, and Chemical Properties | 3 |
| or CHEM 1130 ¹ | or Introduction to Organic Chemistry | |
| ECON 1010 | Introduction to Microeconomic Principles | 3 |
| HNSC 1200 | Food: Facts and Fallacies | 3 |
| or HNSC 1210 | or Nutrition for Health and Changing Lifestyles | |
| MATH 1300 ² | Vector Geometry and Linear Algebra | 3 |
| or MATH 1210 ² | or Techniques of Classical and Linear Algebra | |
| or MATH 1500 ² | or Introduction to Calculus | |
| or MATH 1510 ² | or Applied Calculus 1 | |
| or MATH 1520 ² | or Introductory Calculus for Management and Social Sciences | |
| Free Elective ⁵ | | 3 |
| Total Credit Hours | | 30 |

Year 2

| Course No. | Course Name | Credit Hours |
|---------------------------------|--|--------------|
| ABIZ 2510 | Introduction to Agricultural and Food Marketing | 3 |
| AGEC 2370/BIOL 2300 | Principles of Ecology | 3 |
| AGRI 2030 | Technical Communications | 3 |
| AGRI 2400 | Experimental Methods in Agricultural and Food Sciences | 3 |
| ANSC 2500 | Animal Production | 3 |
| ANSC 2510 | Anatomy and Physiology 1: Control Systems | 3 |
| ANSC 2520 | Anatomy and Physiology 2: Nutrient Utilization | 3 |
| CHEM2730/MBIO 2730 ³ | Elements of Biochemistry 1 | 3 |
| CHEM 2740 ⁴ | Introduction to the Biochemistry Laboratory | 3 |
| Free Elective ⁵ | | 3 |
| Total Credit Hours | | 30 |

Year 3

| Course No. | Course Name | Credit Hours |
|------------|--------------------------------|--------------|
| ANSC 3510 | Feeds and Feeding | 3 |
| ANSC 3520 | Animal Reproduction | 3 |
| ANSC 3500 | Principles of Animal Genetics | 3 |
| ANSC 3530 | The Animal and Its Environment | 3 |

Note: Any discrepancies between this document and the Academic Calendar, the Academic Calendar takes precedent.

| | | |
|--|---|-----------|
| PLNT 2500 | Crop Production | 3 |
| PLNT 2520/BIOL 2500 | Genetics | 3 |
| SOIL 3600 | Soils and Landscapes in Our Environment | 3 |
| Restricted ⁶ /Free Electives ⁵ | | 9 |
| Total Credit Hours | | 30 |

Year 4

| Course No. | Course Name | Credit Hours |
|--|--|--------------|
| AGRI 4100 | Current Issues in Agricultural Systems | 3 |
| Restricted ⁶ /Free Electives ⁵ | | 27 |
| Total Credit Hours | | 30 |

Notes:

1. CHEM 2100 (Organic Chemistry 1: Foundations of Organic Chemistry) can be substituted for CHEM 1130 (Introduction to Organic Chemistry).
2. Students are recommended to take one the MATH courses listed in the program requirements above however may also use either MATH 1220 or MATH 1230 to meet the requirement.
3. Under required courses, students can take either CHEM 2730/MBIO 2730 (Elements of Biochemistry 1) or CHEM 2700/MBIO 2700 (Biochemistry I: Biomolecules and an Introduction to Metabolic Energy).
4. While CHEM 2740 (Introduction to the Biochemistry Laboratory) is the recommended lab course for this program, student who are completing the Pre-Vet requirements may use either CHEM 1120 (Introduction to Chemical Techniques) or CHEM 2740 to complete this requirement for Animal Systems as well. If a student has both courses, one is used towards free electives. Under required courses, students may also take CHEM 2720 (Principles and Practices of the Modern Biochemistry Laboratory) in place of CHEM 2740.
5. There are 27 credit hours of Free Electives required for the Animal Systems program. Students may apply for the [Cooperative Education Program](#). Two work terms are required to graduate with Co-op designation. Co-op courses (3 credit hours each) are used towards Free Electives.
6. There are 15 credit hours of Restricted Electives required in the Animal Systems program. Students must complete:

| Restricted Electives | | Credit Hours |
|---|--|---------------------|
| Group 1 - Ruminant Production: choose <u>one course</u> from the following: | | 3 |
| ANSC 4520 | Ruminant Production Systems - Meat | |
| ANSC 4530 | Ruminant Production Systems - Milk | |
| Group 2 – Monogastric Production: choose <u>one course</u> from the following: | | 3 |
| ANSC 4550 | Avian Production Systems | |
| ANSC 4640 | Swine Production Systems | |
| Group 3 – Advanced Animal Science: choose <u>two courses</u> from the following: | | 6 |
| Any ANSC 2000, 3000, or 4000 courses; or FOOD 3500*; or ENTM 3160 | | |
| Group 4 – Human Resources: choose <u>one course</u> from the following: | | 3 |
| ABIZ 2620 | Agricultural Human Resource Management | |
| GMGT 2070 | Organizational Behaviour | |
| HRIR 2440 | Human Resource Management | |

*This course is usually offered every 2nd year - planning ahead is important.

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