AGRONOMY, B.SC. - AGRICULTURE

Overview/Entrance Requirements

The B.Sc. (Agriculture) is a professional program which prepares graduates for careers in the public and private sectors related to the production and distribution of agricultural commodities. Graduates are prepared to enter directly into a related graduate studies program.

The Agronomy program will provide an integrated and comprehensive study of the factors and processes associated with the science of crop production and the management and use of land and water resources. The program emphasizes land management and the sustainability of agronomic and horticultural crop systems. All students are required to take the following B.Sc. (Agriculture) degree core requirements and the respective program core courses.

Degree Requirements

Course	Title	Hours
B.Sc. Agriculture Degree Core		
ABIZ 1000	Introduction to Agribusiness Management	3
ABIZ 2510	Introduction to Agricultural and Food Marketing	3
AGEC 2370/ BIOL 2300	Principles of Ecology	3
AGRI 1600	Introduction to Agrifood Systems	3
AGRI 2030	Technical Communications	3
AGRI 2400	Experimental Methods in Agricultural and Food Sciences	3
AGRI 4100	Current Issues in Agricultural Systems	3
ANSC 2500	Animal Production	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 1130	Introduction to Organic Chemistry [1]	3
or CHEM 1110	Introductory Chemistry 2: Interaction, Reactivity, and Chemical Properties	
ECON 1010	Introduction to Microeconomic Principles	3
HNSC 1200	Food: Facts and Fallacies	3
or HNSC 1210	Nutrition for Health and Changing Lifestyles	
One of the following: [2]		3
MATH 1210	Techniques of Classical and Linear Algebra	
MATH 1300	Vector Geometry and Linear Algebra	
MATH 1500	Introduction to Calculus	
MATH 1510	Applied Calculus 1	
MATH 1524	Mathematics for Management and Social Sciences	
PLNT 2500	Crop Production	3
PLNT 2520	Genetics	3
or BIOL 2500	Genetics 1	
SOIL 3600	Soils and Landscapes in Our Environment	3
Agronomy Core		
BIOL 2242	The Flowering Plants	3
BIOE 3100	Agricultural Engineering Fundamentals for Agronomists	3
ENTM 3170	Crop Protection Entomology	3
PLNT 3540	Weed Science	3
PLNT 4270	Plant Disease Control	3
PLNT 4510	Advanced Cropping Systems	3
PLNT 4590	Physiology of Crop Plants	3
SOIL 4510	Soil and Water Management	3
SOIL 4520	Soil Fertility	3
Restricted Electives		
6 credit hours from Group 1 - Agriculture		6
3 credit hours from Group 2 - Soil Science [3]		3
Free Electives		
30 credits hours [4]		30
Total Hours		**120**

1. Students can hold CHEM 2100 (Organic Chemistry 1: Foundations of Organic Chemistry) in place of 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. Students may use the former MATH 1520 to meet the MATH course requirement.
3. Courses required as part of the Agriculture Degree Core or Agronomy Core cannot be used to meet this requirement.
4. Students can 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.
5. Students considering graduate school in agriculture or a related field in the natural sciences are recommended to take CHEM 1120 (Introduction to Chemical Techniques) and CHEM 2730 (Elements of Biochemistry 1) as free electives.

Restricted Electives

Group 1 - Agriculture

Course	Title	Hours
AGRI 2300	Indigenous Issues in Food Systems	3
PLNT 1000	Urban Agriculture	3
PLNT 2510	Fundamentals of Horticulture	3
PLNT 3520	Principles of Plant Improvement	3
PLNT 3560	Organic Crop Production on the Prairies	3
PLNT 4410	Grassland Agriculture: Plant, Animal and Environment	3

Group 2 – Soil Science

Course	Title	Hours
SOIL 3XXX	Any 3000 level SOIL course	3
SOIL 4XXX	Any 4000 level SOIL course	3

Progression Plan

Suggested Agronomy Program Progression

Course	Title	Hours
Year 1		
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 or CHEM 1130	Introductory Chemistry 2: Interaction, Reactivity, and Chemical Properties or Introduction to Organic Chemistry	3
ECON 1010	Introduction to Microeconomic Principles	3
HNSC 1200 or HNSC 1210	Food: Facts and Fallacies or Nutrition for Health and Changing Lifestyles	3
One of the following:		3
MATH 1210	Techniques of Classical and Linear Algebra	
MATH 1300	Vector Geometry and Linear Algebra	
MATH 1500	Introduction to Calculus	
MATH 1510	Applied Calculus 1	
Free Elective		3
	Hours	**30**
Year 2		
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
BIOL 2242	The Flowering Plants	3
PLNT 2500	Crop Production	3
PLNT 2520/ BIOL 2500	Genetics	3
SOIL 3600	Soils and Landscapes in Our Environment	3
Restricted/Free Electives/Co-op		6
	Hours	**30**
Year 3		
ANSC 2500	Animal Production	3
BIOE 3100	Agricultural Engineering Fundamentals for Agronomists	3
ENTM 3170	Crop Protection Entomology	3
PLNT 3540	Weed Science	3
PLNT 4270	Plant Disease Control	3
PLNT 4590	Physiology of Crop Plants	3
Restricted/Free Electives/Co-op		12
	Hours	**30**
Year 4		
AGRI 4100	Current Issues in Agricultural Systems	3
PLNT 4510	Advanced Cropping Systems	3
SOIL 4510	Soil and Water Management	3
SOIL 4520	Soil Fertility	3
Restricted/Free Electives/Co-op		18
	Hours	**30**
	Total Hours	**120**

Cooperative Education Program

Co-operative Education is a process that alternates periods of academic study with periods of paid work experience relating to the co-op student's area of study. Through the Co-operative Education Program, full-time, paid work terms provide the students with practical experience and provide guidance for further career specialization or further academic study.

Students secure full-time, paid co-op work placements with a faculty-approved employer(s) that are each a minimum of 420 hours, to be completed within 4 months. The faculty supports students on both a group and individual basis to determine their learning goals for the work placement. Students are expected to attend an orientation session as well as participate in a series of self-evaluations under the guidance of a sessional instructor. Prior to starting each work term, students will register in AGRI 2002 (first placement), AGRI 3002 (2nd placement), and AGRI 4002 (3rd placement) within the term that their co-op placement will take place and pay the fees. Students must submit a reflective written report at the end of the work term and are evaluated for both overall participation and the report on a Pass/Fail basis.

Degree Program

Admission: Students who have been admitted to an undergraduate program within the faculty are eligible to apply to the Co-operative Education Program. Students are advised that satisfying the entrance requirements does not guarantee a place in the Co-operative Education Program. Full admission into the Program is dependent upon a student's ability to secure a work term placement. Normally, the first work term would take place at the end of the second academic year allowing students to pursue professional development activities in year one. However, with approval of the Faculty and employer, the first work term could commence after the first year of a four-year or second-degree program. Students admitted into the Program must maintain good academic standing (minimum DGPA of 2.0).

Employment Term Requirements: The Co-operative Education Program requires the student to secure two full-time, paid co-op work terms (minimum of 420 hours each) with a faculty approved employer(s). A third work term is optional. Prior to starting the work term, students are required to register in the appropriate Agricultural and Food Sciences Co-operative Education Work Term Course within the set deadlines and pay the fee. Successful completion of a work term includes participating in a mid-work term interview with the Co-op Coordinator and completion of a written work term report at the end of each work term. Students who receive a passing grade on the work term reports for all required work terms graduate with the Co-operative Education designation acknowledged on their parchment.

During a work term, a co-op student may take a maximum of one additional course worth up to six credit hours for a total of nine (9) credit hours. Co-op credit hours earned can be used towards free elective requirements in any degree program.

Diploma Program

Admission: To be considered for admission in the Cooperative Education Program, a first year diploma student must have a minimum Degree GPA

of 2.0, and have completed at least 24 credit hours of studies by the end of the academic year of application.

Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Education Program. Full admission into the program is dependent upon the student receiving a job placement through the Cooperative Education Office.

Employment Term Requirements: The student will receive three credits for completing the Cooperative Education Program. Students are required to register in the employment term course and pay the fee prior to starting the employment term.