

AGRIBUSINESS

Job readiness and/or transfer

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The Agribusiness Department has three program options: Farm and Ranch Management, Sales and Service, and Agriculture Transfer. Concentrated areas of study are animal science, crop and soil science, agricultural mechanics, farm and ranch management, and agribusiness management.

The two-year Farm & Ranch Management program prepares students to work in production agriculture as owners or managers. The two-year Agribusiness Sales and Service program prepares students to work in agricultural sales and service. Students may choose a crop or livestock option. Graduates receive training for positions in agronomy centers, elevators, feed mills, chemical and fertilizer application companies, grain and seed companies, farm supply stores and other agricultural businesses.

Graduates of these two options are awarded an Associate in Applied Science degree upon successful completion of the program, which includes 60 semester hours of technical and general education credit and a cooperative education/internship. The prescribed course of study consists of all the classes (excluding electives) listed under each program area. The cooperative education internship program gives students on-the-job training in farming or ranching or with an agricultural business. An integral part of the program that helps students develop practical skills, it is scheduled for all students in the Farm and Ranch Management and Sales and Service options from April 1 to August 15 of their freshman year.

Students in the Agriculture Transfer program complete the first two years of work toward a bachelor's degree before transferring to a four-year college or university. They receive an Associate in Science degree upon successful completion of 60 semester hours of technical and general education credit. The cooperative education/internship program is not required, but is an option.

AGRIBUSINESS SALES & SERVICE A.A.S. CROP OR LIVESTOCK OPTION

FRESHMAN CREDITS

FALL SEMESTER

Introduction to Animal Sciences (ARSC 114)	2
Introduction to Animal Sciences Lab (ARSC 114L)	1
Electricity and Electronics Applications (ASM 254)	2
Electricity and Electronics Applications Lab (ASM 254L)	1
Leadership & Presentation Techniques (H&CE 241)	2
World Food Crops (PLSC 110)	2
World Food Crops Lab (PLSC 110L)	1
Sales and Service Seminar (AGRI 191)	1
Electives	3-9

SPRING SEMESTER CREDITS

Introduction to Agribusiness Mgmt. (AGEC 141)	3
Principles of Weed Science (PLSC 223)	2
Principles of Weed Science Lab (PLSC 223L)	1
Soil Fertility & Fertilizers (SOIL 222)	2
Soil Fertility & Fertilizers Lab (SOIL 222L)	1
Intro to Precision Farming (AGRI 275)	2
Required Agribusiness Course for Livestock Sales	
Intro to Veterinary (VETS 101)	1
Required Agribusiness course for Crop Sales	
Principles of Crop Production (PLSC 225)	2
Required Electives	
Principles of Microeconomics (ECON 201)	3
First Aid, CPR and AED (HPER 210)	1

SUMMER SESSION CREDITS

Coop Education/Internship (COOP 197)	1
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SOPHOMORE

FALL SEMESTER CREDITS

Introduction to Agricultural Management (AGEC 242)	3
Introduction to Agricultural Finance (AGEC 246)	3
Feeds and Feeding (ARSC 123)	2
Feeds and Feeding Lab (ARSC 123L)	1
Introduction to Soil Science (SOIL 210)	2
Introduction to Soil Science Lab (210L)	1

Electives	3-6
Required Agribusiness Course for Livestock Sales	
Introduction to Range Management (ARSC 236)	2
Required Agribusiness Course for Crop Sales	
Machinery Principles and Management (ASM 278)	2
Machinery Principles and Management Lab (ASM 278L)	1

SPRING SEMESTER **CREDITS**

Introduction to Agricultural Marketing (AGEC 244)	4
Sophomore Seminar (AGRI 291)	1
Electives	3-9
Required Agribusiness Course for Livestock Sales	
Livestock Production (ARSC 220)	3
Livestock Production Lab (ARSC 220L)	1
Animal Health (VETS 289)	3
Required Agribusiness Course for Crop Sales	
Tractor and Power Units (ASM 273)	2
Tractor and Power Units lab (ASM 273L)	1

ELECTIVES REQUIRED **CREDITS**

College Composition I (ENGL 110)	3
Fundamentals of Public Speaking (COMM 110)	3
Principles of Microeconomics (ECON 201)	3
Business, Math and Science recommended classes	
(from two different categories)	6
Elements of Accounting I (ACT 200)	
Principles of Management (BADM 202)	
Sales (BADM 240)	
Organizational Behavior (BADM 281)	
Human Resource Management (BADM 282)	
Introduction to Computers (CSCI 101)	

FARM & RANCH MGMT. A.A.S.

FRESHMAN **CREDITS**

FALL SEMESTER

Agricultural Accounting (AGEC 142)	3
Introduction to Animal Sciences (ARSC 114)	2
Introduction to Animal Sciences Lab (ARSC 114L)	1
Electricity and Electronics Applications (ASM 254)	2
Electricity and Electronics Applications Lab (ASM 254L)	1
Leadership & Presentation Techniques (H&CE 241)	2
World Food Crops (PLSC 110)	2
World Food Crops Lab (PLSC 110L)	1
Electives	3-9

SPRING SEMESTER **CREDITS**

Computerized Farm Record keeping (AGEC 249)	3
Agricultural Welding (ASM 155)	1
Agricultural Welding Lab (ASM 155L)	2
Principles of Weed Science (PLSC 223)	2
Principles of Weed Science Lab (PLSC 223L)	1
Soil Fertility & Fertilizers (SOIL 222)	2
Soil Fertility & Fertilizers Lab (SOIL 222L)	1
Intro to Precision Farming (AGRI 275)	2
Agribusiness Elective	
Intro to Vet Science (VETS 101)	1

REQUIRED ELECTIVES **CREDITS**

Principles of Microeconomics (ECON 201)	3
First Aid, CPR and AED (HPER 210)	1

SUMMER SESSION **CREDITS**

Coop Education/Internship (COOP 197)	1
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SOPHOMORE

FALL SEMESTER	CREDITS
Introduction to Agricultural Finance (AGEC 246)	3
Feeds and Feeding (ARSC 123)	2
Feeds and Feeding Lab (ARSC 123L)	1
Introduction to Soil Science (SOIL 210)	2
Introduction to Soil Science Lab (SOIL 210L)	1
Machinery Principles and Management (ASM 278)	2
Machinery Principles and Management Lab (ASM 278L)	1
Agribusiness Elective	
Introduction to Range Management (ARSC 236)	2
Electives	3-6

SPRING SEMESTER	CREDITS
Introduction to Agricultural Marketing (AGEC 244)	4
Introduction to Agricultural Marketing (AGEC 242)	3
Livestock Production (ARSC 220)	3
Livestock Production Lab (ARSC 220L)	1
Tractor and Power Units (ASM 273)	2
Tractor and Power Units Lab (ASM 273L)	1
Principles of Crop Production (PLSC 225)	2
Agribusiness Electives	
Animal Health (VETS 239)	3
Intro to Vet Science (VETS 101)	1
Sophomore Seminar (AGRI 291)	1
Electives	3-9

ELECTIVES REQUIRED	CREDITS
College Composition I (ENGL 110)	1
Fundamentals of Public Speaking (COMM 110)	3
Principles of Microeconomics (ECON 201)	3
Business, Math and Science recommended classes (from two different categories)	6
Elements of Accounting I (ACT 200)	
Principles of Management (BADM 202)	
Sales (BADM 240)	
Organizational Behavior (BADM 281)	
Human Resource Management (BADM 282)	
Introduction to Computers (CSCI 101)	

AGRICULTURE TRANSFER

The two-year agriculture transfer program prepares students to continue their education at a four-year agriculture college in the following areas: Agricultural Economics, Agricultural Extension Education, Agricultural System Management, Animal and Range Science, Crop and Weed Science, Soil Science and Pre-Veterinary Medicine. Students are advised as to which classes will be necessary to continue their studies toward a specific agriculture baccalaureate degree. Students in this program study agricultural classes specific to their chosen field of study as well as meeting the general education requirements at North Dakota State University.

Those who successfully complete the Agriculture Transfer program receive an Associate in Science degree. BSC's Agribusiness Department faculty work closely with North Dakota State University in Fargo to provide dual admission and a curriculum that allows BSC students to be accepted as juniors in their chosen field of study. While the majority of BSC students transfer to NDSU, other have continued their education at South Dakota State University, Montana State University and other agriculture schools.

SUGGESTED CURRICULUM FOR ASSOCIATE IN SCIENCE:

Any student who plans to pursue an agricultural baccalaureate degree should secure an Agribusiness advisor because of numerous differences in mathematics and science requirements and agriculture classes for various degree programs. Each student should complete the following general education requirements at BSC:

Communication	9
College Composition I (ENGL 110)	3
College Composition II (ENGL 120)	3
or Speech (COMM 110)	3
Arts & Humanities	6
Social Sciences	6
Principles of Microeconomics (ECON 201)	3
Math, Science, & Technology	15

Math	3
Lab Science	8
Introduction to Computers (CSCI 101)	3
Enrichment	2

Agriculture electives should be selected according to the needs of the student or requirements of the transfer college.

FARM MANAGEMENT EDUCATION PROGRAM

**CONTACT PERSON: Mark Holkup • Voc-Tech Center 106
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The Farm Management Education program provides a practical and thorough study of the farming business for farm families currently engaged in managing their farms or ranches. The course will help the farm family organize the record keeping system and then analyze their records to determine the financial strengths and weakness of the farm business as well as each of the farm enterprises.

Training in computerized farm record systems is part of the course. Class meetings are held throughout the year in various farm production areas, but much of the course content is done individually with the farm family.

This program is certified to meet the Farm Service Agency borrower training requirements. It is also available online from BSC via the internet.

AGRICULTURE (AGEC, AGRI, ARSC, ASM, H&CE, PLSC, SOIL, VETS)

AGRICULTURAL ECONOMICS (AGEC)

AGEC 141 Introduction to Agribusiness Management Spring 2 credits

This is an introductory course dealing with the economic importance of the agribusiness community and the potential for employment with the agribusiness industry.

AGEC 142 Agricultural Accounting Fall 3 credits

An introduction to the preparation of farm records and financial statements for use in business analysis.

AGEC 242 Introduction to Agricultural Management F&S 3 credits

Economic and managerial concepts related to farm or agribusiness production process, development of cost data, enterprise analysis, organization and management of production inputs.

AGEC 244 Introduction to Agricultural Marketing Spring 4 credits

A study of the agricultural marketing system to include cash marketing, commodity futures trading, branded products merchandising and the interrelationship of the government and international trade.

AGEC 246 Introduction to Agricultural Finance Fall 3 credits

Introduction to agricultural finance; provides background in farm and agribusiness credit use and evaluation. Discussion of specific financial conditions on farms and in agribusiness.

AGEC 249 Computerized Farm Record keeping Spring 3 credits

Use of computer systems to initialize, and summarize farm/ranch financial and production records.

AGRICULTURE (AGRI)

AGRI 191 Freshman Sales Seminar Spring 1 credit

An introductory course designed to acquaint students with the opportunities in the agricultural sales and service industry. Emphasis will be placed on sales demonstrations, promotional activities and job shadowing.

AGRI 241 Farm Management Education F&S 2 credit hours repeatable

The Farm Management Education program provides a practical study of the farming business for farm families currently engaged in managing their farms or ranches. Three semesters of enrollment per year.

AGRI 242 Advanced Farm Management Education F&S 2 credit hours repeatable

Prerequisite: Agri 241 or department approval. This course continues the application of farm management principles for decision making. Fall and spring enrollment only. Requirements - 3 years of AGRI 241 or a degree in Agriculture.

AGRI 291 Sophomore Sales Seminar Spring 1credit

This course is designed to develop skills and experiences in sales procedures, processes and theory. Emphasis will be placed on communication, product

knowledge, the sales presentation and the sales process.

AGRI 294 Independent Study 1-3 credits
Independent or directed study of special topics in agribusiness. Department chairperson approval required.

AGRI 299 Special Topics BD Variable 1-3 credits
Variable instructional topics in the field of agriculture. Repeatable with varied content. Consent of department chairperson.

AGRI 195-295 Service Learning F&S 1-3 credits
Maximum of six semester hours. Service learning may be accomplished by one of three methods. Joining a club that has a public service component, doing volunteer work at a non-profit organization, or taking a course that links public service with its curriculum

AGRI 197-297 Cooperative Education/Internship 1-3 credits repeatable up to 6 semester hours
Students get on-the-job experience under qualified supervision in agribusiness occupations. Work hours are arranged by the employer, adviser, and student. Student progress is checked by oral and written reports from the employer. Student-adviser conferences are held to discuss progress and/or problems. All co-op experiences are graded on a satisfactory/unsatisfactory basis. Consent of department chairperson.

ANIMAL AND RANGE SCIENCE (ARSC)

ARSC 114 Introduction to Animal Sciences Fall 2 credits
General principles of the livestock industry and relationship to mankind. Concurrent registration in or previous successful completion of ARSC 114L is required.

ARSC 114L Introduction to Animal Sciences Lab Fall 1 credit
Concurrent registration in or previous successful completion of ARSC 114 is required.

ARSC 123 Feeds and Feeding Fall 2 credits
Principles of feeding livestock including digestive systems, nutrient requirements, nutrient characteristics, and sources utilized in the formulation of balanced rations. Concurrent registration in or previous successful completion of ARSC 123L is required.

ARSC 123L Feeds and Feeding Lab Fall 1 credit
Concurrent registration in or previous successful completion of ARSC 123 is required.

ARSC 220 Livestock Production Spring 3 credits
General production and management of major meat animal species. Topics include: production systems, feeding, facilities, health, economics, and marketing. Concurrent registration in or previous successful completion of ARSC 220L is required.

ARSC 220L Livestock Production Lab Spring 1 credit
Concurrent registration in or previous successful completion of ARSC 220 is required.

ARSC 236 Introduction to Range Management Fall 2 credits
Principles of range management, which include plant identification, range evaluation, and range improvement.

AGRICULTURAL SYSTEMS MANAGEMENT (ASM)

ASM 155 Agricultural Welding Spring 1 credits
Principles and operation of oxyacetylene, electrode, and wire feed welding. Concurrent registration in or previous successful completion of ASM 155L is required.

ASM 155L Agricultural Welding Lab Spring 2 credits
Concurrent registration in or previous successful completion of ASM 155 is required.

ASM 254 Electricity and Electronics Applications Fall 2 credits
Fundamentals and applications of electricity, electronic power distribution, controls, motors, and solid state electronics. Concurrent registration in or previous successful completion of ASM 254L is required.

ASM 254L Electricity and Electronics Applications Lab Fall 1 credit
Concurrent registration in or previous successful completion of ASM 254 is required.

ASM 273 Tractor and Power Units Spring 2 credits
Theory and principles of operation, use, maintenance, repair, and selection of tractors and power systems. Includes engines, transmissions, fuel, lubrication, hydraulics, traction, and electrical systems. Concurrent registration in or previous successful completion of ASM 273L is required.

ASM 273L Tractor and Power Units Lab Spring 1 credit
Concurrent registration in or previous successful completion of ASM 273 is required.

ASM 278 Machinery Principles and Management Fall 2 credits
Principles of agricultural machinery manufacture, sales, operation, and management. Topics include selection, replacement, operation, application, and maintenance. Concurrent registration in or previous successful completion of ASM 278L is required.

ASM 278L Machinery Principles and Management Lab **Fall** **1 credit**

Concurrent registration in or previous successful completion of ASM 278 is required.

HUMAN AND COMMUNITY EDUCATION (H&CE)

H&CE 241 Leadership & Presentation Techniques **Fall** **2 credits**

Development of youth leadership professionals in educational settings; methods, principles, and practices in organizing, developing, conducting, and evaluating community-based student organizations and student leadership programs. GERTA-SS.

H&CE 281 Early Experience **F&S** **1 Credit**

Field-based experience in a middle or high school educational setting. Provides an opportunity to observe and interact with students, teachers, and administrators.

PLANT SCIENCE (PLSC)

PLSC 110 World Food Crops **Fall** **2 credits**

Scientific principles of crop growth, worldwide production, management alternatives, and processing for domestic and international consumption. AAS-MST. Concurrent registration in or previous successful completion PLSC 110L is required.

PLSC 110L World Food Crops Lab **Fall** **1 credit**

Concurrent registration in or previous successful completion of PLSC 110 is required.

PLSC 223 Principles of Weed Science **Spring** **2 credits**

Introduction to biological, chemical, cultural and mechanical weed control, characteristics of weeds and their identification, pesticide application and dissipation. Concurrent registration in or previous successful completion PLSC 223L is required.

PLSC 225 Principles of Crop Production **Spring** **2 credits**

Principles of field crop production with emphasis on relationships of crops to their climate and production considerations as a means of managing resources and the environment.

PLSC 223L Principles of Weed Science Lab **Spring** **1 credit**

Concurrent registration in or previous successful completion of PLSC 223 is required.

SOIL (SOIL)

SOIL 210 Introduction to Soil Science **Fall** **2 credits**

Physical, chemical, and biological properties of soils as related to use, conservation, and plant growth. AAS-MST. Concurrent registration in or previous successful completion of SOIL 210L is required.

SOIL 210L Introduction to Soil Science Lab **Fall** **1 credit**

Concurrent registration in or previous successful completion of SOIL 210 is required.

SOIL 222 Soil Fertility and Fertilizers **Spring** **2 credits**

Principles of plant nutrition and soil nutrient availability; soil testing and fertilizer recommendations and management. Macronutrient emphasis. Concurrent registration in or previous successful completion of SOIL 222L is required.

SOIL 222L Soil Fertility and Fertilizers Lab **Spring** **1 credit**

Concurrent registration in or previous successful completion of SOIL 222 is required.

VETERINARY SCIENCE (VETS)

VETS 101 Introduction to Veterinary Science **Spring** **1 credit**

This course is an introduction to veterinary science. It will provide students with an overview of different breeds and species; disease and treatment fundamentals; veterinary terminology; basic pharmacology; dose calculations and public health.

VETS 239 Animal Health **Spring** **3 credits**

Principles of animal health; prevention, sanitation, chemotherapy, immunology, disease symptoms, and management.

ANIMAL AND RANGE SCIENCE (ARSC)

SEE AGRICULTURE