

Agricultural Sciences Major

Requirements

Degree Type: B.S.

Minimum Credits Required: 120

University Degree Requirements

For complete details on these and other university degree requirements, refer to the Degree and Graduation Requirements (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation/>) section in the University Catalog.

1. Minimum of 120 semester credits (some programs may exceed this minimum).
2. Complete the University General Education requirements.
3. Minimum institutional GPA of 2.00 based on work taken at NDSU.
4. Minimum of 30 credits in residence at NDSU.
5. Minimum of 36 upper level credits (courses numbered 300 or higher).
6. Students with transfer credit must meet the NDSU 30 credits in residence (#4). Of these 30 credits in residence, a minimum of 15 credits must be in courses numbered 300 or above, and 15 credits must be in the student's declared major curricula.

University General Education Requirements

A list of university approved general education courses along with the administrative policies governing the requirement and the categories is available here (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/general-education/>).

Code	Title	Credits
Category C: Communication		12
Category R: Quantitative Reasoning		3
Category S: Science and Technology		10
Category A: Humanities and Fine Arts		6
Category B: Social and Behavioral Sciences		6
Category W: Wellness		2
Category D: Cultural Diversity		
Category G: Global Perspectives		
Category L: Digital Literacy		
Total Credits		39

Major Requirements

Code	Title	Credits
Major Requirements for Agriculture Sciences		
AGRI 189	Skills For Academic Success	1
AGRI 120	Feeding and Fueling the World	3
ANSC 114	Introduction to Animal Sciences	3
ASM 115	Fundamentals of Agricultural Systems Management	3
BIOL 111	Concepts of Biology	3
or BIOL 150	General Biology I	
CSCI 114	Computer Applications	3
or TL 116	Business Software Applications	
CHEM 117	Chemical Concepts and Applications	3
or CHEM 121	General Chemistry I	
ECON 201	Principles of Microeconomics	3
H&CE 496	Field Experience	4
NRM 225	Natural Resources & Agrosystems	3
PLSC 110	World Food Crops	3
SOIL 210	Introduction to Soil Science	3

STAT 330	Introductory Statistics	3
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Three Agriculture Sciences Emphasis Areas

Student must select three (3) emphasis areas from the 10 areas offered below to complete the major. Each emphasis area is 12 credits and a minimum of 36 credits is required for the three areas. A minimum of six (6) credits in each emphasis area must be completed with courses numbered at the 300-400 level. 33-38

Total Credits 71-76

Code	Title	Credits
Agricultural Business and Economics Emphasis Area		

ECON 202	Principles of Macroeconomics	3
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AGEC 242	Introduction to Agricultural Management	3
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Select 6 credits from the following:		6
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AGEC 244	Agricultural Marketing	
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AGEC 246	Introduction to Agricultural Finance	
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AGEC 342	Farm and Agribusiness Management II	
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AGEC 343	Introduction to Commodity Trading	
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AGEC 347	Principles of Real Estate	
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AGEC 350	Agrisales	
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AGEC 356	Advanced Agricultural Lending	
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AGEC 474	Cooperatives	
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ECON 343	Intermediate Macroeconomics	
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ECON 402	Economics of Entrepreneurship	
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Total Credits 12

Code	Title	Credits
Agricultural Systems Management Emphasis Area		

Select 12 credits from the following courses: 12

ASM 323	Post-Harvest Technology	
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ASM 354	Electricity and Electronic Applications	
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ASM 373	Tractors & Power Units	
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ASM 374	Power Units Laboratory	
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ASM 378	Machinery Principles and Management	
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ASM 429	Hydraulic Power Principles and Applications	
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ASM 475	Management of Agricultural Systems	
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Total Credits 12

Code	Title	Credits
Animal Health Emphasis Area		

ANSC 218	Anatomy and Physiology of Domestic Animals	3
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ANSC 219	Anatomy and Physiology Laboratory	1
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ANSC 223	Introduction to Animal Nutrition	3
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Select 6 credits from the following: 6

ANSC 260	Introduction to Equine Studies	
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ANSC 300	Domestic Animal Behavior and Management	
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ANSC 324	Applied Animal Nutrition	
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ANSC 357	Animal Genetics	
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ANSC 370	Fundamentals/Animal Disease	
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ANSC 371	Fundamentals of Animal Disease II	
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Total Credits 13

Code	Title	Credits
Animal Production Emphasis Area		

ANSC 220	Livestock Production	3
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ANSC 223	Introduction to Animal Nutrition	3
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Select 7 credits from the following: 7

ANSC 230	Meat Grading and Evaluation
ANSC 231	Livestock Evaluation
ANSC 232	Dairy Cattle Evaluation
ANSC 240	Meat Animal Evaluation and Marketing
ANSC 241	Survey of Meat Science
ANSC 300	Domestic Animal Behavior and Management
ANSC 324	Applied Animal Nutrition
ANSC 340	Principles of Meat Science
ANSC 344	Fundamentals of Meat Processing
ANSC 380	Livestock Sales and Marketing
ANSC 463	Physiology of Reproduction
ANSC 487	Growing and Finishing Cattle Management
PLSC 315	Genetics

Total Credits 13

Code Title Credits

Crop Production Emphasis Area

PAG 115 Introduction to Precision Agriculture 2

Select 10 credits from the following: 10

PLSC 180	Plant Systems Approach to Global Foods
PLSC 210	Horticulture Science
PLSC 225	Principles of Crop Production
PLSC 320	Integrated Forage and Cover Crops Production Management and Ecosystem Services
PLSC 335	Seed Technology & Production
PLSC 340	Grain Grading
PLSC 368	Plant Propagation
PLSC 386	Arboriculture Climbing and Rigging Operations
PLSC 415	Vegetable Crop Production
PLSC 422	Greenhouse Production and Management
PLSC 425	Potato Science
PLSC 485	Arboriculture Science
PAG 215	Mapping of Precision Ag Data
SOIL 322	Soil Fertility and Fertilizers
SOIL 465	Soil And Plant Analysis

Total Credits 12

Code Title Credits

Crop Protection Emphasis Area

ENT 350 General Entomology 3

PLSC 215 Weed Identification 1

PLSC 323 Principles of Weed Science 3

PLSC 453 Advanced Weed Science 2

Total Credits 9

Code Title Credits

Extension Education Emphasis Area

H&CE 445 Designing and Delivering Nonformal Education Programs 3

H&CE 446 Extension Education 3

Select 6 credits from the following: 6

EDUC 322	Educational Psychology
HDFS 462	Methods of Family Life Education
H&CE 468	Foundations of Family and Consumer Sciences Education

H&CE 480	Science, Technology, Engineering & Mathematics Teaching Methods in Agricultural Education
ENGL 459	Researching and Writing Grants and Proposal

Total Credits **12**

Code	Title	Credits
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Landscape Production Emphasis Area

PLSC 210	Horticulture Science	3
PLSC 368	Plant Propagation	3

Select 6 credits from the following: **6**

PLSC 341	Landscape Bidding, Contracting and Operations
PLSC 355	Woody Landscape Plants
PLSC 365	Herbaceous Landscape Plants
PLSC 370	Landscape Management
PLSC 375	Turfgrass Management
PLSC 381	Sports Turf Operations
PLSC 386	Arboriculture Climbing and Rigging Operations
PLSC 412	Nursery Production and Management
PLSC 422	Greenhouse Production and Management
PLSC 457	Horticulture and Turfgrass Systems
PLSC 465	Advanced Landscape Plants
PLSC 468	Landscape Irrigation Design
PLSC 469	Landscape Irrigation Installation and Management
PLSC 485	Arboriculture Science

Total Credits **12**

Code	Title	Credits
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Natural Resources Emphasis Area

SOIL 217	Introduction to Meteorology & Climatology	3
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Select 9 credits from the following: **9**

NRM 264	Natural Resource Management Systems
NRM 401	Urban-Ecosystem Management
NRM 402	River and Stream Resource Management
NRM 420	Sustainable Scenarios in Natural Resources Management
NRM 421	Environmental Outreach Methods
NRM 431	National Environmental Policy Act and Environmental Impact Assessment
NRM 453	Rangeland Resources Watershed Management
NRM 454	Wetland Resources Management
NRM 456	Ecological Restoration
SOIL 264	Natural Resource Management Systems
SOIL 410	Soils and Land Use

Total Credits **12**

Code	Title	Credits
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Plant Food Production and Safety Emphasis Area

MICR 100	Famine, Plague, and Cheese. Microbes: the cause and solution to the world's problems	3
MICR 453	Food Microbiology	2

Select 7 credits from the following: **7**

ASM 323	Post-Harvest Technology
CFS 370	Food Processing I
CFS 450	Cereal Technology
CFS 452	Food Laws and Regulations
CFS 460	Food Chemistry
CFS 462	Food Ingredient Technology

CFS 472	Cereal and Food Fermentation
CFS 473	Food Safety
MICR 453L	Food Microbiology Laboratory

Total Credits**12**

Degree and Major Notes

- Courses cannot be used to fulfill more than one emphasis
- Classes offered in the emphasis may require additional prerequisites; consult an advisor to plan accordingly.
- Classes offered in the emphasis areas and electives may be offered on-campus only or available via distance education. See the semester schedule for a listing of online classes.