



# APS AGRONOMY

## Faculty

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## Mission

The Agricultural Production Systems is dedicated to embracing innovation and respecting tradition in the development of individuals for the agronomy, agricultural equipment, equine, and livestock industries.

Graduates of this major gain technical knowledge and skills for lifelong learning that are critical for successful careers in agriculture.

### Agricultural Production Systems Core

The following courses are required for all Associate of Applied Science degree options.

AGR 2903	INTERNSHIP	3
ECN 1103	INTRODUCTION TO AG ECONOMICS	3
ABM 2854	FARM & RANCH MANAGEMENT	4
ACT 1103	ACCOUNTING I	3
or ABM 2963	FARM, RANCH, AND SMALL BUSINESS RECORD KEEPING	
AGR 2982	AGRICULTURAL PRODUCTION SYSTEMS CAPSTONE	2
<b>Total Credit Hours</b>		<b>15</b>

### Agronomy Industry Management Option-Associate of Applied Science Degree

- Students will be able to apply economically sound and environmentally sustainable agricultural crop production practices in the Great Plains.

#### Associate of Applied Science Core

Complete requirements 17

**Ag Productions System Core** 15

Credit Hours Subtotal: 32

#### Agronomy Option Core

Complete requirements 23

See below:

AGR 1091	CROP PRACTICUM I
MKT 2203	AG MARKETING
AGR 1204	PRINCIPLES OF SOILS
AGR 1591	CROP PRACTICUM II
AGR 2091	CROP PRACTICUM III
AGR 2304	SOIL FERTILITY
AEQ 2323	PRECISION FARM TECH
AGR 2353	PEST MANAGEMENT
AGR 2403	CROP MANAGEMENT

Credit Hours Subtotal: 23

#### Agronomy Specialization

Select 9 credits of the following: 9

AEQ 1203	WELDING
AEQ 2103	AG CHEMICAL APPLICATION
AEQ 2303	EQUIP PREVENTATIVE MAINTENANCE

AGR 1103	CROP SCIENCE
AGR 1213	NATURAL RES MNGT
AGR 1891	CROPS JUDGING I
AGR 2383	IRRIGATION MANAGEMENT
AGR 2892	CROPS JUDGING II
ASI 2303	RANGE MANAGEMENT
<b>Electives</b>	<b>3</b>
<b>Credit Hours Subtotal:</b>	
<b>12</b>	
<b>Total Credit Hours</b>	
<b>67</b>	

### Diversified Agriculture Management Option-Associate of Applied Science Degree

- Students will be able to apply economically sound and environmentally sustainable agricultural crop production practices in the Great Plains.

**Associate of Applied Science Core** 17

**Ag Production Systems Core** 15

See below: 8

AGR 1204	PRINCIPLES OF SOILS	
ASI 1304	ANIMAL MANAGEMENT	
Credit Hours Subtotal:		40

#### Diversified Agriculture Specialization

Select two of the following: 6-8

AEQ 2323	PRECISION FARM TECH
AGR 2304	SOIL FERTILITY
AGR 2383	IRRIGATION MANAGEMENT
AGR 2353	PEST MANAGEMENT
AGR 2403	CROP MANAGEMENT
AEQ 2103	AG CHEMICAL APPLICATION
AEQ 2404	MECHANIZED IRRIGATION SYSTEMS

Select two of the following: 6

ASI 1203	FEEDLOT SYSTEMS
ASI 1213	LIVESTK & CARC EVAL
ASI 1253	NUTRITION
ASI 2203	FEEDS & FEEDING
ASI 2303	RANGE MANAGEMENT
ASI 2353	LIVESTOCK BREEDING
ASI 2753	BEEF PRODUCTION SYSTEMS

**Electives** 15

Credit Hours Subtotal: 27

**Total Credit Hours** 67

### Agronomy Option-Associate of Science Degree (transfer)

- Students will demonstrate the knowledge required to effectively transition to a bachelor's degree in agronomy.

#### Associate of Science Core

Complete requirements 24

Credit Hours Subtotal: 24

**Agronomy Specialization**

Select 24 credits of the following: 24

ABM 2854	FARM & RANCH MANAGEMENT
AEQ 2323	PRECISION FARM TECH
AGR 1891	CROPS JUDGING I
AGR 2892	CROPS JUDGING II
AGR 1091	CROP PRACTICUM I
AGR 1591	CROP PRACTICUM II
AGR 2091	CROP PRACTICUM III
AGR 2304	SOIL FERTILITY
AGR 1204	PRINCIPLES OF SOILS
ASI 2303	RANGE MANAGEMENT
AGR 2353	PEST MANAGEMENT
AGR 2383	IRRIGATION MANAGEMENT
AGR 2403	CROP MANAGEMENT
MKT 2203	AG MARKETING
ECN 1103	INTRODUCTION TO AG ECONOMICS

Credit Hours Subtotal: 24

**Electives**

Advisor Guided Electives 12

Credit Hours Subtotal: 12

**Total Credit Hours 60****Ag Chemical Application Certificate**

- Students will be able to mix and apply agricultural chemicals safely and efficiently.
- Students will be able to interact professionally with colleagues and clients.

**Ag Chemical Application, Certificate**

AEQ 2103	AG CHEMICAL APPLICATION	3
AEQ 2323	PRECISION FARM TECH	3
AGR 2353	PEST MANAGEMENT	3
Advisor Guided Electives (AGR or AEQ)		6
AGR 1881	APPLIED AGRICULTURAL EXPERIENCE	1-3
or AGR 2903	INTERNSHIP	

**Total Credit Hours 16-18****Agriculture Certificate**

- Provide foundational knowledge in crop and animal food production systems and a basic understanding of natural resource and agribusiness management.

AGR 1011	AGRICULTURAL CAREERS	1
AGR 1103	CROP SCIENCE	3
AGR 1213	NATURAL RES MNGT	3
ECN 1103	INTRODUCTION TO AG ECONOMICS	3
ASI 1304	ANIMAL MANAGEMENT	4
Advisor Guided Electives		3

**Total Credit Hours 17****Crop Production Certificate**

- Students will gain a foundational knowledge in crop production related principles and practices.

**Crop Production Core (choose 15 credit hours of the following) 15**

AEQ 2103	AG CHEMICAL APPLICATION
AEQ 2323	PRECISION FARM TECH
AGR 1204	PRINCIPLES OF SOILS
AGR 2304	SOIL FERTILITY
AGR 2383	IRRIGATION MANAGEMENT
AGR 2353	PEST MANAGEMENT
AGR 2403	CROP MANAGEMENT

Credit Hours Subtotal: 15

**Electives**

Advisor Guided Electives (AGR or AEQ Courses) 5

Credit Hours Subtotal: 5

**Total Credit Hours 20****Diversified Agriculture Certificate**

- Students will gain a foundational knowledge in crop and livestock production principles and practices.

**Complete the following:**

ECN 1103	INTRODUCTION TO AG ECONOMICS	3
ASI Courses		6
AGR Courses		6
Agriculture Elective Courses (AEQ, AGR, ASI)		5
Credit Hours Subtotal:		20

**Total Credit Hours 20****AEQ 1071 INDUSTRIAL SAFETY**

**Description:** Designed to acquaint students with standard industry practices and emergency procedures and develop an awareness of job hazards. Students will prepare for a CPR/First Aid exam and receive some bulk handling equipment training (forklift/skid steer).

**Credit Hours:** 1**Max credits per semester:** 1**Max credits per degree:** 1**Grading Option:** Graded**AEQ 1103 SMALL ENGINES**

**Description:** A complete course in gasoline engine operation. It consists of operational theory and nomenclature including the internal components and its air, fuel, lubrication, and cooling system. This course will emphasize small and multi-cylinder gas and diesel engines.

**Credit Hours:** 3**Max credits per semester:** 3**Max credits per degree:** 3**Grading Option:** Graded

### AEQ 1153 EQUIPMENT PRINCIPLES

**Description:** Students will be exposed to the basic principles of agricultural equipment including power trains, hydraulics, fuel systems and electricity. Alternative devices will be studied.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 1171 FARM EQUIP & SAFETY

**Description:** An orientation into the safe operation of tractors, combines, balers, skid loaders, and other common farm equipment. Students will be expected to demonstrate their ability to safely operate several types of equipment.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

### AEQ 1203 WELDING

**Description:** Develop fundamental skills and procedures for oxy/acetylene, arc, and wire feed welding in flat position. Included will be basic blueprint interpretation and weld symbols, with metal cutting and preparation techniques.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 1313 INTERMEDIATE WELDING

**Description:** (Pre req: AEQ 1203 or equivalent) Develop skills in vertical, horizontal and overhead position arc and wire feed welding. Plasma Arc Cutting and a small assigned construction project are included. Use of a spool gun and TIG equipment will be introduced.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 1501 INTRODUCTION TO ELECTRIC CODE

**Description:** Introduction to Nebraska state electrical law and the National Electric Code as they pertain to the working electrician.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

### AEQ 1503 DC CIRCUIT ANALYSIS

**Description:** Fundamentals of DC electricity as applied to series, parallel, and series-parallel circuits. Diagnosis and troubleshooting of circuits with test equipment.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 1513 AC CIRCUIT ANALYSIS

**Description:** Fundamentals of AC electricity including alternating current theory, waveform quantities and characteristics, and network analysis. Diagnosis and troubleshooting simple circuits with proper test equipment.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 1651 HARVEST OPERATIONS

**Description:** The course will primarily focus on grain harvest operations. Grain combine setup and operation will be emphasized. Students will gain an understanding of factors influencing harvest efficiency including estimating harvest losses. Combine yield monitor operation will also be included.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

### AEQ 1713 CARPENTRY

**Description:** Learning basic tools and techniques of carpentry as it would pertain to a farm and ranch, including selection, use and maintenance of hand and power tools; selection of wood construction materials; construction of joints; application of finishes; and using these basic skills to follow a plan in the construction of a functional project.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 2103 AG CHEMICAL APPLICATION

**Description:** A course to provide career based training for a commercial applicator of pesticides, fertilizers and other agricultural chemicals. A foundation for the safe and effective use of agricultural chemicals will be emphasized. Students will gain experience and knowledge in the calibration, operation and maintenance of agricultural chemical application equipment. Preparation for obtaining a commercial pesticide applicator license will be included.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 2211 HYDRAULICS

**Description:** Basic study of hydraulic concepts, applications, and operation as applied to power equipment systems. This class also includes study of the diagnosis of power equipment with the emphasis on hydraulic problems.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

### AEQ 2213 ADVANCED WELDING

**Description:** (Pre req: AEQ 1313 or equivalent) Students will develop skills using a spool gun and TIG welding, and additional arc and wire feed welding on a wide variety of metals. The second eight weeks is devoted toward preparation for American Welding Society certification.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AEQ 2303 EQUIP PREVENTATIVE MAINTENANCE

**Description:** A study of economic principles and principles of operation, adjustments, repair, maintenance, and tune-up of farm vehicles (automotive, tractors, and powered farm equipment vehicles).

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AEQ 2323 PRECISION FARM TECH**

**Description:** A comprehensive overview of precision farming techniques used in crop production including: GPS systems and applications; yield monitors and map interpretation; grid/zone soil sampling and soil sensors; remote sensing techniques; variable-rate equipment and strategies, and GIS software utilization.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AEQ 2404 MECHANIZED IRRIGATION SYSTEMS**

**Description:** Prerequisites: AEQ 1501, AEQ 1503, AEQ 1513.

Fundamentals of mechanized irrigation systems focusing on center-pivot components. Technical service and operation will be emphasized. Application of industrial electrical components and controls.

**Credit Hours:** 4

**Max credits per semester:** 4

**Max credits per degree:** 4

**Grading Option:** Graded

**AEQ 2413 DIESEL ENGINE**

**Description:** A study of cost effective maintenance programs for agriculture power equipment. Included is nomenclature, operational theory, adjustment and maintenance of agriculture gasoline and diesel engines. Lab includes the disassembly of a diesel engine.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AEQ 2522 METAL FABRICATION**

**Description:** Prerequisite: AEQ 2213. Students will develop advanced metal-working skills with AC aluminum TIG welding, additional wire feed welding with aluminum, and programmable welding with development of programming, service, and equipment maintenance. Further skills will include basic use of metal lathe and precision measurement. The second eight weeks will include preparation for American Welding Society (AWS) aluminum certification (D1.2), a second opportunity for AWS steel certification (D1.1), and some small welding project planning and construction.

**Credit Hours:** 2

**Max credits per semester:** 2

**Max credits per degree:** 2

**Grading Option:** Graded

**AEQ 2604 WELDING APPRENTICESHIP**

**Description:** (Pre req: approval by Academic Lead) The apprenticeship provides job experience in your field of study at an approved work location. Official agreements are entered into between the student, employer, and the college. The internship must last a minimum of 8 weeks averaging at least 40 hours per week. A written journal of daily work activities plus a 10 minute PowerPoint presentation are required upon completion. Students must submit a list of learning objectives prior to the apprenticeship and include discussion of these within their presentation. The student and employee will also complete a survey at the conclusion of the apprenticeship.

**Credit Hours:** 4

**Max credits per semester:** 4

**Max credits per degree:** 4

**Grading Option:** Pass No Pass

**AEQ 2801 REINKE CERTIFICATION**

**Description:** Prerequisites: AEQ 1501, AEQ 1503, AEQ 1513. Students will complete the Reinke Platinum PLUS Certified Technician training program. The course is an on-line training program developed by Reinke with integrated exams at the end of each training module. Students will be expected to complete the training sessions on their own time; however, faculty assistance will be available. To receive a Pass for the course, students must meet performance standards established by Reinke.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Pass No Pass

**AGR 1011 AGRICULTURAL CAREERS**

**Description:** Students will be exposed to the great diversity of careers that support the agricultural industry. Educational requirements to prepare for these agricultural careers will also be explored.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

**AGR 1073 INVASIVE PLANTS**

**Description:** Invasive plants can be found nearly everywhere on Earth. The flora of our planet is constantly being redistributed by either natural or human forces. The change in locations of plant species has affected, and continues to affect, ecosystems around the world. In this course, students will learn how invasive plants are able to establish in regions outside of their native range. Students will develop an understanding of the importance of invasive plants at the global scale and learn how species, which are fairly being in on ecosystem, can have significant negative impacts in others. The focus will be on how and why invasive plants become established and their impacts on ecosystems.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AGR 1091 CROP PRACTICUM I**

**Description:** This is the first course of a 3-course sequence that integrates students into the crop production on NCTA's farm laboratory. Students will work as a team to develop a crop management plan for one of NCTA's crop fields. The plan will include actual production practices, budgeting and marketing of the harvested crop. Crop planting and harvest will be conducted by the students and possibly some ag chemical applications. Due to farm size limitations, the practicum courses will be limited to just Agronomy majors.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

**AGR 1103 CROP SCIENCE**

**Description:** Students will develop a global understanding of the food, feed, and fiber system. Crop production strategies to maximize yield and quality while sustaining resources and the environment will be emphasized. Principles of crop growth and development, pest management and technology for crop production will be covered.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AGR 1116 AGRICULTURE APPLICATIONS

**Description:** This course is designed for students to gain experience in handling conditions on the farm daily. Students will receive hands on experience.

**Credit Hours:** 6

**Max credits per semester:** 6

**Max credits per degree:** 6

**Grading Option:** Graded

### AGR 1201 SOILS LAB

**Description:** Laboratory activities dealing with physical, biological and chemical properties of soils that support plant growth.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

### AGR 1204 PRINCIPLES OF SOILS

**Description:** A study of soil formation and the chemical, physical and biological properties of soils through a combination of lecture and lab learning activities. The course will emphasize soil conditions that affect crop growth. Management strategies to sustain long-term soil health and crop productivity will be covered.

**Credit Hours:** 4

**Max credits per semester:** 4

**Max credits per degree:** 4

**Grading Option:** Graded

### AGR 1213 NATURAL RES MNGT

**Description:** A study of our natural resources with special emphasis on soil and water management including land classification, conservation practices, and protection methods used to conserve our natural resources, plus the role of government agencies in Natural Resource Management.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AGR 1591 CROP PRACTICUM II

**Description:** This course is the second of a three course sequence that will be required for all agronomy majors. The 3-course practicum sequence will provide another direct assessment of the agronomy program learning outcome of "applying economically sound and environmentally sustainable agriculture crop production practices." The practicum courses will also increase student utilization of the college's farm laboratory.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

### AGR 1603 INTRODUCTION TO URBAN AGRICULTURE

**Description:** An introduction to the history, definitions, principles, practices, and innovations of agricultural production in urban and pre-urban settings. Topics will include urban farming systems including traditional and emerging systems such as controlled environment and hydroponics, animal systems in urban settings, urban food systems, community gardens, policies regarding urban agriculture, food access and security, urban agriculture's role in community and society, agricultural marketing in urban setting, and sustainable urban agricultural best practices.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

### AGR 1661 AGRONOMY ORIENTATION

**Description:** This course will provide students the opportunity to develop their "intercultural knowledge and competence" and "information literacy" skills and abilities. It will also include group activities to help formulate career goals, improve academic success skills, develop a resume and select and appropriate internship.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

### AGR 1881 APPLIED AGRICULTURAL EXPERIENCE

**Description:** Instructor permission required for enrollment. The course will provide agricultural experiential learning activities that meet the specific needs of the academic program pursued. Learning experiences will emphasize hands-on activities in the field or laboratory that reflects the student's chosen career. Experiences will be designed collaboratively between NCTA and any collaborating partners. Credit hours for the experience will be awarded to match the experience and meet requirement designated in the Credit Hour Policy.

**Credit Hours:** 1-6

**Min credits per semester:** 1

**Max credits per semester:** 6

**Max credits per degree:** 6

**Grading Option:** Graded

### AGR 1891 CROPS JUDGING I

**Description:** This course will cover all principles of agronomy to prepare students to compete in crops judging contests that operate under the North American Colleges and Teachers of Agriculture (NACTA) contest guidelines.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 3

**Grading Option:** Graded

### AGR 1991 INDEPENDENT STUDY

**Description:** Individual or group projects in research, literature review, or extension of course work under the supervision and evaluation of a Major faculty member who is willing and available to contract with the student. (Pre req: Approval of project by Instructor, Academic Lead, and Advisor)

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 2

**Grading Option:** Graded



**AGR 2002 WILDLIFE HABITAT MGT**

**Description:** A course that studies the most common Nebraska Wildlife species that are managed for harvest throughout the state. The habitat requirements and management techniques for each wildlife species will be covered. Current wildlife habitat support programs will be reviewed.

**Credit Hours:** 2

**Max credits per semester:** 2

**Max credits per degree:** 2

**Grading Option:** Graded

**AGR 2091 CROP PRACTICUM III**

**Prerequisites:** AGR 1591 Crop Practicum II

**Description:** This is the third of a 3-course sequence that integrates students into the crop production of NCTA's farm laboratory. Students will work as a team to develop a crop management plan for one of NCTA's irrigated crop fields. The plan will include actual production practices, budgeting and marketing of the harvested crop. Crop planting and harvest will be conducted by the students and possibly some ag chemical applications. Due to farm size limitations, the practicum courses will be limited to just Agronomy majors.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

**AGR 2103 BUILDING CONSTRUCTION**

**Description:** A study of materials, techniques, and design used for farm and ranch facilities. Lab time will include the construction of Ag building, fences, and facilities on the NCTA campus.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AGR 2153 ORGANIC FOOD PRODUCTION**

**Description:** An introduction to the history, definitions, principles, and practices of organic food production. Topics include soil husbandry, integrated pest management, farming systems including diversified vegetables, perennial fruit, agronomic field crops, meat, egg, and milk production, organic certification, and marketing.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AGR 2201 COMMERCIAL AG CARRIER**

**Description:** A course of study designed to enable students to successfully obtain their CDL with all necessary endorsements. This course of study targets agricultural employees and producers. It is not intended for those seeking fulltime employment as commercial truck drivers. (Pre req: Must be a full time NCTA student)

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Pass No Pass

**AGR 2304 SOIL FERTILITY**

**Description:** Dynamics of essential plant nutrients in the soil environment. Sustainable and profitable fertility management of agronomic and horticultural crops will be emphasized. Characteristics of the fertilizer materials, fertilizer application methods and fertilizer rate calculations will be covered.

**Credit Hours:** 4

**Max credits per semester:** 4

**Max credits per degree:** 4

**Grading Option:** Graded

**AGR 2353 PEST MANAGEMENT**

**Description:** Identification of plant pests, including morphology and life cycles of selected insects, weeds and diseases. Pest control methods will include chemical, physical, mechanical, cultural and biological techniques. Application of integrated pest management will be stressed.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AGR 2383 IRRIGATION MANAGEMENT**

**Description:** Efficient irrigation management strategies of agronomic crops. Irrigation techniques, irrigation scheduling, equipment selection, and water use regulations will be covered. Sustainable utilization of our water resources will be emphasized.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AGR 2403 CROP MANAGEMENT**

**Description:** Integration of principles of crop and soil science, plant breeding, climatology and integrated pest management in the development and evaluation of crop management practices. Students will be able to apply economically sound and environmentally sustainable crop production strategies in the Great Plains.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**AGR 2714 FARM BEGINNINGS**

**Description:** The Farm Beginnings Program consists of a series of sessions offered throughout the year by Nebraska Extension with cooperation from NCTA. The sessions focus on alternative agriculture and cover a variety of topics, including building networks, goal setting, whole farm planning, building your business plan, marketing, business and farm management and financials management. In addition to learning first-hand from successful farmers, participants will develop their own business plan as they progress through the course.

**Credit Hours:** 4

**Max credits per semester:** 4

**Max credits per degree:** 4

**Grading Option:** Graded

## AGR 2823 INTRODUCTION TO GLOBAL AGRICULTURE AND NATURAL RESOURCES

**Description:** Overview of global relationships in agriculture and natural resources that affect Nebraska, the United States, and the world. Emphasis on gaining perspectives of the social, technological, economic, environmental, and political issues impacting the world food system.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

## AGR 2892 CROPS JUDGING II

**Description:** This course will cover all principles of agronomy to prepare students to compete in crops judging contests that operate under the North American College and Teachers of Agriculture (NACTA) contest guidelines.

**Credit Hours:** 2

**Max credits per semester:** 2

**Max credits per degree:** 6

**Grading Option:** Graded

## AGR 2903 INTERNSHIP

**Description:** (Pre req: approval by Division Chair) The internship provides job experience in your field of study at an approved work location. Official agreements are entered into between the student, employer, and the college. The internship must last a minimum of 8 weeks averaging at least 40 hours per week (NOTE: students must honor length agreed upon by employer). A written journal of daily work activities plus a 10 minute PowerPoint presentation are required upon returning from internship. Students must submit a list of learning objectives prior to the internship and include discussion of these with their presentation. The student and employer will also complete a survey at the conclusion of the internship.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

## AGR 2982 AGRICULTURAL PRODUCTION SYSTEMS CAPSTONE

**Description:** (Pre req: 2nd year students only) Capstone is a course that provides a culminating learning experience for the student in their chosen Agricultural Production Systems degree option. Learning experiences will focus on professional growth, career-based problem solving, and interaction with various professionals and organizations that support agricultural careers. Capstone projects will be developed by the student that are tailored to their future profession and may include farm/ranch business plans, entrepreneurship in agriculture, or management of instructor designated issues.

**Credit Hours:** 2

**Max credits per semester:** 2

**Max credits per degree:** 2

**Grading Option:** Graded

## AGR 2992 INDEPENDENT STUDY

**Description:** Individual or group projects in research, literature review or extension of course work under the supervision and evaluation of a Major faculty member who is willing and available to contract with the student. The student will present his/ her independent study proposal to the Major Division Chair and faculty for their approval. (Pre req: Approval of project by Instructor, Advisor, and Division Chair)

**Credit Hours:** 2

**Max credits per semester:** 2

**Max credits per degree:** 4

**Grading Option:** Graded

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information to reach sound logical conclusions in their chosen career pathway.
3. Students will be able to apply economic principles of accounting, marketing and budgeting to agricultural enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)

## Agronomy Suggested Sequence of Study

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
AGR 1204	PRINCIPLES OF SOILS	4
AGR 1091	CROP PRACTICUM I	1
AGR 1661	AGRONOMY ORIENTATION	1
BIO 1313	PLANT SCIENCE	3
BIO 1321	AGRONOMIC PLANT SCIENCE LABORATORY	1
ECN 1103	INTRODUCTION TO AG ECONOMICS	3
Electives		3
<b>Credit Hours</b>		<b>16</b>
<b>Spring</b>		
AGR 2304	SOIL FERTILITY	4
AGR 1591	CROP PRACTICUM II	1
AEQ 2323	PRECISION FARM TECH	3
MTH 1403	AGRICULTURAL MATHEMATICS	3
SPC 1103	SALES COMM	3
ABM 2963	FARM, RANCH, AND SMALL BUSINESS RECORD KEEPING	3
<b>Credit Hours</b>		<b>17</b>
<b>Summer</b>		
AGR 2903	INTERNSHIP	3
<b>Credit Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
AGR 2091	CROP PRACTICUM III	1
AGR 2353	PEST MANAGEMENT	3
AGR 2383	IRRIGATION MANAGEMENT	3
AGR 2823	INTRODUCTION TO GLOBAL AGRICULTURE AND NATURAL RESOURCES	3
ABM 2854	FARM & RANCH MANAGEMENT	4
<b>Credit Hours</b>		<b>14</b>
<b>Spring</b>		
AGR 2403	CROP MANAGEMENT	3
MKT 2203	AG MARKETING	3
AEQ 2103	AG CHEMICAL APPLICATION	3
AGR 2982	AGRICULTURAL PRODUCTION SYSTEMS CAPSTONE	2
ENG 1503	TECHNICAL COMMUNICATION I	3

Electives	3
<b>Credit Hours</b>	<b>17</b>
<b>Total Credit Hours</b>	<b>67</b>

## Diversified Agriculture

### Suggested Sequence of Study

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
AGR 1204	PRINCIPLES OF SOILS	4
AGR 1661	AGRONOMY ORIENTATION	1
BIO 1313	PLANT SCIENCE	3
BIO 1321	AGRONOMIC PLANT SCIENCE LABORATORY	1
ECN 1103	INTRODUCTION TO AG ECONOMICS	3
Electives		4
<b>Credit Hours</b>		<b>16</b>
<b>Spring</b>		
AGR 2304	SOIL FERTILITY	4
MTH 1403	AGRICULTURAL MATHEMATICS	3
ABM 2963	FARM, RANCH, AND SMALL BUSINESS RECORD KEEPING	3
SPC 1103	SALES COMM	3
Electives		3
<b>Credit Hours</b>		<b>16</b>
<b>Summer</b>		
AGR 2903	INTERNSHIP	3
<b>Credit Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
ASI 1304	ANIMAL MANAGEMENT	4
ASI 1253	NUTRITION	3
ABM 2854	FARM & RANCH MANAGEMENT	4
AGR 2823	INTRODUCTION TO GLOBAL AGRICULTURE AND NATURAL RESOURCES	3
Electives		3
<b>Credit Hours</b>		<b>17</b>
<b>Spring</b>		
ASI 2753	BEEF PRODUCTION SYSTEMS	3
MKT 2203	AG MARKETING	3
AGR 2982	AGRICULTURAL PRODUCTION SYSTEMS CAPSTONE	2
ENG 1503	TECHNICAL COMMUNICATION I	3
Electives		4
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>67</b>

## Agronomy Transfer

### Suggested Sequence of Study

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
AGR 1204	PRINCIPLES OF SOILS	4
AGR 1091	CROP PRACTICUM I	1
AGR 1661	AGRONOMY ORIENTATION	1
BIO 1313	PLANT SCIENCE	3
BIO 1321	AGRONOMIC PLANT SCIENCE LABORATORY	1
AED 1023	INTERPERSONAL SKILLS FOR LEADERSHIP	3
ECN 1103	INTRODUCTION TO AG ECONOMICS	3
<b>Credit Hours</b>		<b>16</b>
<b>Spring</b>		
AGR 2304	SOIL FERTILITY	4
AGR 1591	CROP PRACTICUM II	1
MTH 2252	TRIGONOMETRY	2
ENG 1903	WRITING & INQUIRY	3
HTY 1303	AMERICAN HISTORY AFTER 1877	3
Elective		3
<b>Credit Hours</b>		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
AGR 2353	PEST MANAGEMENT	3
MTH 2203	INTRODUCTION TO STATISTICS	3
AGR 2091	CROP PRACTICUM III	1
ABM 2854	FARM & RANCH MANAGEMENT	4
Electives		3
<b>Credit Hours</b>		<b>14</b>
<b>Spring</b>		
AGR 2403	CROP MANAGEMENT	3
AGR 2823	INTRODUCTION TO GLOBAL AGRICULTURE AND NATURAL RESOURCES	3
CHM 1014	CHEMISTRY IN CONTEXT I	4
MKT 2203	AG MARKETING	3
Elective		1
<b>Credit Hours</b>		<b>14</b>
<b>Total Credit Hours</b>		<b>60</b>