



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Natural Sciences and Business

COURSE: AGR 1209 Crop Production and Management

Date: Spring 2023

Credit Hours: 3

Complete all that apply or mark "None" where appropriate:

Prerequisite(s): None

Enrollment by assessment or other measure? Yes No

If yes, please describe:

Corequisite(s): None

Pre- or Corequisite(s): None

Consent of Instructor: Yes No

Delivery Method:	<input checked="" type="checkbox"/> Lecture	3 Contact Hours (1 contact = 1 credit hour)
	<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
	<input type="checkbox"/> Lab	0 Contact Hours (2-3 contact = 1 credit hour)
	<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)

Offered: **Fall** **Spring** **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

A study of the grain and forage crop production methods used in the Midwest. Course emphasis will be on seed selection, seeding rates, fertility management, pest management, seedbed preparation, harvesting methods, and technology used in crop production and management.

ACCREDITATION STATEMENTS AND COURSE NOTES:

None

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Weather and Crops
 - a. Temperature
 - b. Precipitation
 - c. Soil Moisture
 - d. Weather Forecasts
 - i. El Nino
 - ii. La Nina
2. Soil Management and Tillage
 - a. Conservation Compliance
 - b. Conservation Tillage Methods
 - c. Conventional Tillage
 - d. Soil Erosion
 - e. Tillage Considerations
3. Corn Production
 - a. Development Stages
 - b. Seed Selection
 - c. Planting Date
 - d. Planting Depth
 - e. Seeding Rates
 - f. Row Spacing
 - g. Corn Fertility Management
 - h. Potential Problems
 - i. Management for Optimal Yield
4. Soybean Production
 - a. Development Stages
 - b. Seed Selection
 - c. Planting Date
 - d. Planting Depth
 - e. Seeding Rates
 - f. Row Spacing
 - g. Soybean Fertility Management
 - h. Potential Problems
 - i. Management for Optimal Yield Yield
5. Wheat Production
 - a. Development Stages
 - b. Seed Selection
 - c. Planting Date
 - d. Planting Depth
 - e. Row Spacing
 - f. Wheat Fertility Management
 - g. Potential Problems
 - h. Management for Optimal Yield

6. Alfalfa and Hay Production
 - a. Development Stages
 - b. Seed Selection
 - c. Planting Date
 - d. Planting Depth
 - e. Seeding Methods
 - f. Alfalfa Fertility Management
 - g. Companion Crops
 - h. Potential Problems
 - i. Management for Optimal Yield
7. Cropping Systems
 - a. Types of Cropping Systems
 - b. Growing Crops in Rotation
 - c. Cover Crops
8. Alternative Crop Production
 - a. Specialty Corn Production
 - b. Specialty Soybean Production
 - c. Growing Crops for Biofuels
 - d. Other Specialty Crops
9. Water Management
 - a. Benefits of Drainage
 - b. Drainage Methods
 - c. Drainage Decisions
 - d. Installing Field Drainage Tile
 - e. Benefits of Irrigation
 - f. Irrigation Methods
 - g. Irrigation Decisions
 - h. Installing Irrigation
 - i. Alternative Soil Water Management Methods
10. Conservation Practices
 - a. Conservation, Farming, and You
 - b. Buffer Strips
 - c. Contour Filter Strips
 - d. Waterways
 - e. Conservation Reserve Programs (CRP)
 - f. Environmental Quality Incentive Programs (EQUIP)
 - g. Conservation Planning

INSTRUCTIONAL METHODS:

- Lecture
- Discussion
- Assignments
- Field Trips
- Projects

EVALUATION OF STUDENT ACHIEVEMENT:

A= 90-100

B= 80-89

C= 70-79

D= 60-69

F= 0-59

Exams: 50%

Quizzes: 30%

Homework: 20%

INSTRUCTIONAL MATERIALS:

Textbooks

Crop Sciences Extension and Outreach. 2017. Illinois agronomy handbook. University of Illinois. <http://extension.cropsciences.illinois.edu/handbook/> (accessed 22 Oct. 2017).

University of Illinois Extension. 2010. Field crop scouting manual. University of Illinois. X880e.

University of Illinois Extension. 2012. Growth stages of agronomic crops. University of Illinois. Champaign-Urbana, IL. X905

Iowa State University. 2011. Corn growth and development. PMR 1009. Iowa State University. Ames, IA.

Iowa State University. 2001. Corn planting guide. PM 1885. Iowa State University. Ames, IA.

Iowa State University. 2011. Alfalfa management guide. NCR 547. Iowa State University. Ames, IA.

Iowa State University. 2014. Soybean growth and development. PM 1945. Iowa State University. Ames, IA.

Resources

University of Illinois Extension publications.

<http://web.extension.illinois.edu/state/index.php>

Purdue University Extension publications.

<https://extension.purdue.edu/Pages/default.aspx>

Iowa State University Extension and Outreach Extension Store publications.

<https://store.extension.iastate.edu/>.

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- 1) Communication – to communicate effectively;
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- 4) Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

1. Explain weather influences on crop growth and development.
2. Describe tillage and soil management practices used in crop production.

3. Critique seeding rates and row spacing used in grain crop production.
4. Develop a crop plan for grain and forage crops.
5. Compare and contrast production methods used to grow grain and forage crops.
6. Prepare and explain a cropping plan for nontraditional cropping systems.
7. Explain advantages and disadvantages of irrigation and drainage methods used to manage soil water.
8. Evaluate alternative crops and determine their feasibility and profitability.
9. Analyze seed data and make seed selection recommendations.
10. Propose and defend the implementation of conservation practices into crop production systems.