



MASTER COURSE OUTLINE

A. AGSC1030 Crop Production

B. COURSE DESCRIPTION:

Crop production and management practices for soybean, corn and other crops of economic importance to the region are analyzed. The class emphasizes management practices including cover crops, crop rotation, conservation tillage and cultivation. Plant characteristics related to growth, development, pests and diseases are examined. Problem solving is stressed related to local conditions to maximize yields. An emphasis is placed on sustainable agriculture practices. Students apply and practice skills in a farm setting. **(4 Cr – 2 lect, 2 lab)**

C. ****Core Theme: People and the Environment**

D. MAJOR CONTENT AREAS:

- Crop production and society
- Plant morphology
- Fundamental plant growth processes
- Plant growth and development
- Crop improvement
- Climate and water
- Soil and land
- Plant nutrients and fertilizers
- Plants, soil and water inter-relationships
- Pests in crop production
- Agricultural production systems
- Organic crop production
- Transgenics in crop production
- Rangelands and pastures and their management
- Tillage systems and farm energy
- Seed, seedling and seeding
- Harvesting and storage of crops
- Marketing and handling grain crops
- Commercial production of select field crops (important regional crops)
 - Corn
 - Soybeans
 - Alfalfa

E. GOAL TYPES, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u>	<u>OUTCOMES</u>
** <u>People and the Environment</u>	Students will be able to explain the basic structure and function of various natural ecosystems and of human adaptive strategies within these systems.	The student will successfully 1. investigate and explain broad ecological principles that affect crop production. 2. investigate and explain human impacts and the adaptive strategies related to crop production of both Western and non-Western societies.
<u>CS</u>	apply vocabulary of crop production.	1. define, explain and be able to use appropriate terms related to crop production.
<u>CS</u>	demonstrate an understanding of soil chemistry and properties.	1. identify the components of soil chemistry and the physical properties of soil.
<u>CS</u>	understand the role of organic matter and its relationship to soil fertility.	1. identify levels of organic material in soil as well as their effect on soil fertility.
<u>CS</u>	recognize the macronutrients and micronutrients of soils.	1. demonstrate an understanding of soil nutrients affecting plant growth and crop production.
<u>CS</u>	investigate erosion of soils and the environmental effects of erosion.	1. explain wind and water erosion of specific farm systems.
<u>CS</u>	recognize and evaluate potential ethical, legal and social issues related to a soil management.	1. make and defend conclusions based on various soil management criteria.

F. SPECIAL INFORMATION:

This course may require use of the Internet, the submission of electronically prepared documents and the use of a course management software program. Students who have a disability and need accommodations should contact the instructor or the Student Success Center at the beginning of the semester. This information will be made available in alternative format, such as Braille, large print, or current media, upon request.

G. COURSE CODING INFORMATION: Course Code C/Class Maximum 48; Letter Grade

Revision date: 11/24/14 ; 11/1/17

AASC Approval date: 11/21/17

*Riverland Community College Disciplines	MnTC Goal Number
Communication (CM)	1
Natural Sciences (NS)	3
Mathematics/Logical Reasoning (MA)	4
History and the Social & Behavioral Sciences (SS)	5
Humanities and Fine Arts (HU)	6

**Riverland Community College Core Themes	MnTC Goal Number
Critical Thinking (CT)	2
Human Diversity (HD)	7
Global Perspective (GP)	8
Ethical and Civic Responsibility (EC)	9
People and the Environment (PE)	10

*These five MnTC Goals have been identified as Riverland Community College Disciplines.

** These five MnTC Goals have been identified as Riverland Community College Core Themes.

NOTE: The Minnesota Transfer Curriculum “10 Goal Areas of Emphasis” are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.