



Articulated Credit
AG 105 Animal Science

NCMC Agriculture & Natural Resources Course

Date _____
High School _____
Instructor _____

High School – Junior & Senior Level Agriculture & Natural Resources Course(s)

Course 1 _____

Semester 2 Semesters

(If needed) Course 2 _____

Semester 2 Semesters

High School Evaluation

- 1 – Highly Comprehensive
- 2 – Moderately Comprehensive
- 3 – Introductory Coverage

Competency	High School Hours Spent	Degree of High School Comprehension
Plant Morphology		
Classify plants on an operational basis, including agronomic use, adaption, growth form, stem type and growth cycle		
List and give examples of important crop plant families		
Describe how plants are identified using morphological features of the leaf, stem, flower, and seed in dicots and monocots		
Describe the structure and function of the leaf, stem, root, and flower		
Fundamental Plant Growth Processes		
Describe the steps involved in the conversion of light energy to chemical energy by photosynthesis		
Discuss the role of photosynthesis in crop yield or productivity		
Discuss plant respiration for maintaining the plant and supporting its functioning		
Discuss the process of transpiration		
Discuss the process of absorption		

Discuss the process of translocation		
Seeds, Seedlings, and Seeding		
List and describe the various tests involved in seed analysis or testing		
Discuss the factors affecting seed germination		
Describe the methods of seeding field crops		
Discuss the factors affecting seeding rate and how it is calculated		
Plant Growth and Development		
Distinguish between growth and development		
Describe the general pattern of growth		
Define yield and yield components		
Discuss photoperiod and its effect on plant growth		
Discuss the concept and application of growing degree days		
Crop Improvement		
Discuss basic Mendalian concepts		
Discuss the principles of plant breeding		
Discuss the strategies for increased crop productivity		
Discuss the role of biotechnology in crop improvement		

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Climate and Weather		
Define the terms climate and weather		
Discuss the role of climate in crop adaptation		
Discuss the major climatic types and their distribution		
Discuss the role of temperature in biochemical reactions such as photosynthesis and its role in crop adaptation		
Discuss the effect of light intensity, quality, and duration on plant growth and development		
Plant Nutrients and Fertilizers		

Discuss the role of essential nutrients in plant growth and development		
Discuss how nutrients are lost from the soil		
Describe plant nutrient deficiency symptoms for all essential elements		
Pests in Crop Production		
List and describe the categories of organisms that cause disease		
Discuss the factors that cause disease		
Describe how pathogens affect crop productivity		
Describe insect pests, their classification, their economic impact		
Describe weeds, their classification, and their economic impact		
List and describe the methods of pest management		