

Natural Resources & Conservation/Horticultural Studies
CASE Curriculum: Level I Unit Outline

Unit 1: Agenda Book Review/Classroom Rules

- Class discussion of student agenda book
- Review of classroom rules
- School safety protocols, district drills and emergency evacuations, behavior and meeting locations
- Review expectations and school policies for electronic devices

Unit 2: Safety, First Aid, Personal Protective Equipment and Shop Attire

- Identify, discuss, locate first aid and blood borne kits
- Identify, locate and demonstrate function and purpose of the Emergency Eye Station
- Identify, discuss, locate fire extinguisher
- Identify, distribute and discuss function and uses of protective eyewear, appropriate personal protective equipment (PPE) required in shop, and acceptable shop attire
- Identify, show location and discuss function and uses of the SDS (Safety Data Sheets) and how to interpret the information about paints and aerosols, content precautions, material labeling
- Equipment safety protocols
- Identify, demonstrate shop ventilation systems where applicable
- Identify locate and discuss function of shop flammable cabinet where applicable
- Discuss and demonstrate shop housekeeping of supplies, work stations and room maintenance
- Discuss and identify electrical safety considerations in the shop area
- Compile a safety section in the student shop notebook
- Identify, demonstrate air gauge function and operation where applicable
- Completion of online safety course and successful passing of safety test(s)

Unit 3: Agriculture, Food, and Natural Resources (AFNR): The Circle of Agricultural Education

- Understand that Agriculture and natural resource systems provide the three basic human needs of food, clothing, and shelter
- Utilize organization and record keeping for the success of an agricultural business
- Understand agriculture: agriculture systems, natural resource management, science, business, communication, and leadership
- Know the production of agricultural commodities occurring within specific regions of the United States

Unit 4: AFNR: Communicating Today

- Utilize multiple forms of verbal and nonverbal communication
- Effectively communicate through the use of voice and visual aids
- Utilize speeches for information, persuasiveness, or for special occasions
- Develop goals to achieve personal aspirations
- Utilize teamwork for essential problem solving and completing group tasks

Unit 5: AFNR: The Science of Agriculture

- Know and utilize laboratory equipment for specific uses in scientific experiments
- Read and understand laboratory procedures for conducting a laboratory experiment safely
- Know and understand laboratory measurements such as, mass, volume, temperature, and density
- Obtain proper and accurate measurement for laboratory investigation
- Use scientific method for a systematic process in problem solving
- Know pH levels to determine the acidity and alkalinity of a substance
- Know the difference/similarities between animal and plant cells
- Understand DNA and genetics
- Understand the process of classification

Unit 6: ANFR: Natural Resources

- Know and understand soil quality, texture, structure, and function
- Understand the process of soil erosion and the concerns
- Understand a soil profile
- Understand the naturally occurring water cycle system
- Know what role land topography, temperature, pH, turbidity, dissolved oxygen, and total dissolved solids play
- Understand the causes of water pollution
- Understand the concept of ecosystems

Unit 7: AFNR: Plants and Animals

- Understand the basic structure of plants and each part's purpose
- Know the function of plants
- Understand what is necessary for plant survival
- Know the body parts of different animal species
- Understand the production and management of animals based on anatomical physiological characteristics
- Know the animal selection process and the complex set of systems that must work together
- Understand animal survival requirements

Unit 8: AFNR: Agricultural Power and Technology

- Understand the consumable forms of energy
- Understand the varying sources of energy and their efficiency
- Know the laws that define property and how the land can be used
- Understand how the Global Positioning System (GPS) is used to improve agricultural production efficiencies and environmental quality
- Determine correct measurement system for accuracy for project success

Unit 9: AFNR: Looking Ahead

- Know the role agriculture play in society and feeding the world
- Understand the importance of accurate record keeping for a successful agricultural enterprise

Unit 10: Career Exploration and Portfolio I

- Plan a job search, including preparing the necessary documents
- Describe different types of job orientation and performance evaluations
- Describe leadership skills and strategies for acquiring such skills
- Recognize the importance of professional development and lifelong learning
- Career portfolios
 - Professional requirements
 - Resume
 - Cover letter
 - Attendance for success form
 - Certificates of achievements
 - Three certificates
 - Academic artifacts
 - 12 academic achievements
 - Tests
 - Quizzes
 - Projects
 - Performance artifacts
 - 12 Practical achievements
 - Labs
 - Practical assignments

Natural Resources & Conservation/Horticultural Studies
New Jersey Student Learning Standards

NJ Learning Standards 9.3

CONTENT AREA:	<i>21st Century Life and Careers</i>
AGRICULTURE, FOOD & NATURAL RESOURCES CAREER CLUSTER[®]	
Number	Standard Statement
<i>By the end of Grade 12, Career and Technical Education Program completers will be able to:</i>	
CAREER CLUSTER[®]:	AGRICULTURE, FOOD & NATURAL RESOURCES (AG)
PATHWAY:	PLANT SYSTEMS (AG-PL)
9.3.12.AG-PL.1	Develop and implement a crop management plan for a given production goal that accounts for environmental factors.
9.3.12.AG-PL.2	Apply the principles of classification, plant anatomy and plant physiology to plant production and management.
9.3.12.AG-PL.3	Propagate, culture and harvest plants and plant products based on current industry standards.
9.3.12.AG-PL.4	Apply principles of design in plant systems to enhance an environment (e.g., floral, forest, landscape and farm).