



Agricultural Biotechnology

General Assessment Information

Blueprint Contents

General Assessment Information
Written Assessment Information

Sample Written Items
Specific Competencies Covered in the Test

Test Type: The Agricultural Biotechnology industry-based credential is included in NOCTI's Pathway assessment battery. Pathway assessments assess knowledge and skills at a broader level than the Job Ready assessments and focus on the Pathways established as part of the national career cluster model. Pathway assessments are delivered entirely online which allows NOCTI to include engaging interactive items.

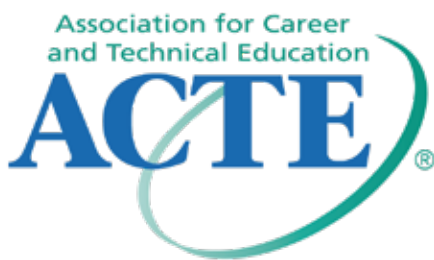
Revision Team: The assessment content is based on input from secondary, post-secondary, and business/industry representatives from the states of Idaho, Montana, Nevada, New York, Oklahoma, and Wyoming.



26.1201-Biotechnology



Career Cluster 1-Agriculture, Food,
and Natural Resources



The Association for Career and Technical Education (ACTE), the leading professional organization for career and technical educators, commends all students who participate in career and technical education programs and choose to validate their educational attainment through rigorous technical assessments. In taking this assessment you demonstrate to your school, your parents and guardians, your future employers and yourself that you understand the concepts and knowledge needed to succeed in the workplace. Good Luck!



NATIONAL COLLEGE CREDIT RECOMMENDATION SERVICE
University of the State of New York - Regents Research Fund

In the lower division baccalaureate/associate degree category, 3 semester hours in Agricultural Biotechnology or Agricultural Science

Written Assessment

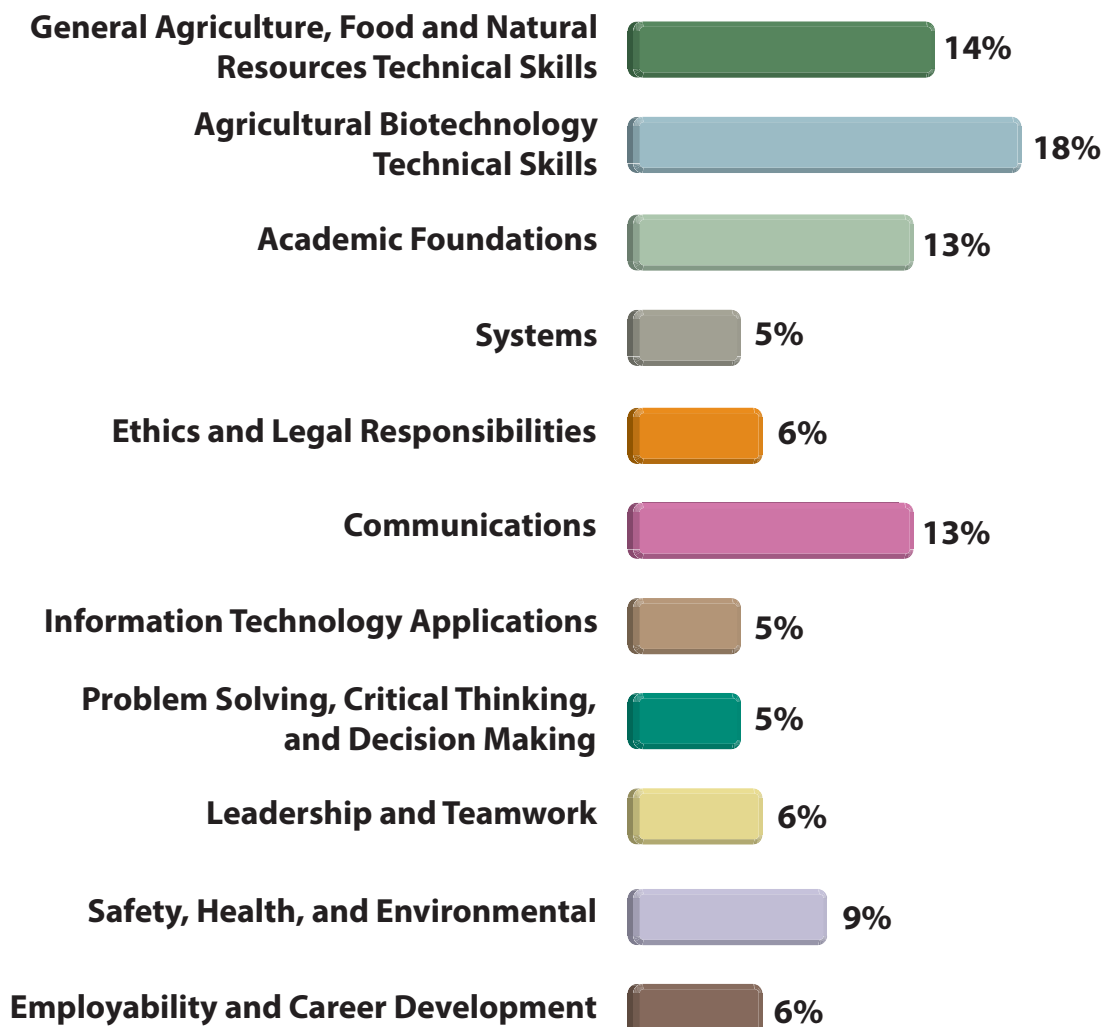
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

Administration Time: 2 hours

Number of Questions: 112

Number of Sessions: This assessment may be administered in one, two, or three sessions.

Areas Covered



Specific Standards and Competencies Included in this Assessment

General Agriculture, Food and Natural Resources Technical Skills

- Apply knowledge of the basics of animal systems
- Apply knowledge of the basics of plant and insect systems
- Apply knowledge of the basics of soil, water, and air systems
- Use, maintain, and store tools and equipment appropriately
- Analyze current issues in the fields of Animal Science, Natural Resources, and Agricultural Biotechnology

Agricultural Biotechnology Technical Skills

- Describe the fundamentals of agricultural biotechnology
- Investigate the use of agricultural biotechnology in plant and animal sciences
- Investigate the use of agricultural biotechnology in medicine and the food industry

Academic Foundations

- Apply reading skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment
- Apply writing skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment
- Apply mathematical skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment
- Apply science skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment



(Continued on the following page)

Specific Standards and Competencies (continued)

Systems

- Understand the major governing bodies and groups that impact how Animal Science, Natural Resources, and Agricultural Biotechnology organizations function (e.g., EPA)
- Demonstrate knowledge of economic principles as applied to Animal Science, Natural Resources, and/or Agricultural Biotechnology systems (e.g., supply and demand, profit)

Ethics and Legal Responsibilities

- Understand the major laws and regulations that impact the Animal Science, Natural Resources, and/or Agricultural Biotechnology industry
- Identify and practice ethical behavior in the workplace

Communications

- Locate, organize, and reference written information from reliable sources to communicate with coworkers and clients
- Develop and deliver formal and informal presentations using appropriate media to engage and inform audiences
- Apply listening skills and interpret verbal and nonverbal behaviors to enhance communication with coworkers and clients
- Interpret and use tables, charts, and graphics to support written and oral communication

Information Technology Applications

- Use computers and software to increase general work efficiency
- Use information technology tools specific to Animal Science, Natural Resources, and/or Agricultural Biotechnology to access and manage information (e.g., GPS)

(Continued on the following page)

Specific Standards and Competencies (continued)

Problem Solving, Critical Thinking, and Decision Making

- Use problem solving and critical thinking skills to locate sources of information about problems and determine appropriate methods for investigating causes
- Use problem solving and critical thinking skills to determine root causes of problems and suggest solutions

Leadership and Teamwork

- Exhibit leadership practices to improve production and quality of work and work environment
- Work effectively in a team environment to improve the quality of work and the work environment

Safety, Health, and Environmental

- Identify and practice appropriate environmental, health, and safety procedures for Animal Science, Natural Resources, and/or Agricultural Biotechnology occupations
- Demonstrate appropriate first aid knowledge and procedures for Animal Science, Natural Resources, and/or Agricultural Biotechnology occupations

Employability and Career Development

- Demonstrate employability skills related to a career in Animal Science, Natural Resources, and/or Agricultural Biotechnology
- Pursue career development skills to advance in Animal Science, Natural Resources, and/or Agricultural Biotechnology careers



Sample Questions

Individual state Departments of Conservation and Natural Resources in conjunction with the U.S. Department of Agriculture manage

- A. pesticides
- B. food safety
- C. timber
- D. pet stores

The technique used to practice water conservation in creative landscapes is called

- A. hardscaping
- B. xeriscaping
- C. landscaping
- D. greenscaping

An agronomist is primarily concerned with what use of soil?

- A. construction
- B. acting as a filter for the hydraulic cycle
- C. supporting crop growth
- D. natural beauty

The thread-like structures that exist in pairs and carry genes are called

- A. gametes
- B. mitosis
- C. meiosis
- D. chromosomes

An example of the use of bacteria in a fermented food is

- A. applesauce
- B. bologna
- C. cheese
- D. toffee

(Continued on the following page)

Sample Questions (continued)

The purpose of a summary in a report is to emphasize

- A. an introduction
- B. references and sources
- C. key points
- D. an autobiographical sketch

Select the sentence below that is correctly written.

- A. The stock was to expensive for me to buy.
- B. I think she said she worked their.
- C. Jim's patients was wearing thin by the end of the day.
- D. I left the correspondence on the manager's desk.

Meat inspection is the governmental responsibility of the

- A. U.S. Department of Agriculture (USDA)
- B. Department of Homeland Security (DHS)
- C. Occupational Safety and Health Administration (OSHA)
- D. Cooperative Extension Services (CES)

To be an effective communicator, the individual must use

- A. lots of photos and charts
- B. research and fact-gathering techniques
- C. biased opinions and information
- D. the individual's own opinion of the topic

Corn and cotton, genetically modified to contain the Bt toxin gene,

- A. are resistant to Round-Up® herbicide
- B. decrease crop yields
- C. reduce the use of pesticides
- D. are generally less expensive than non-Bt crops

Notes