

SEACOAST SCHOOL OF TECHNOLOGY
Student Competency Profile
Animal & Plant Science – CIP 019999

Student: _____

YOG/Completed Program:

 Anne DeMarco, Instructor

 Margaret E. Callahan, Principal

Technical Competencies & Performance Indicators

Understand anatomy and physiology as applied to production and/or management of animals in a domestic or natural environment.	
1.	Describe functional differences and classify animals according to structures and body systems. CRP 7
2.	Identify selected animal parts from a diagram or a real animal. CRP 7
3.	Identify ways an animal's health can be affected by anatomical or physiological problems and as a result why some animals perform better than others. CRP 7
4.	Identify good performance and health traits and perform simple procedures in evaluating an animal's health status and desirable productive numbers (e.g., birth weight, rate of gain, age of maturity, and age of sexual maturity). CRP 7, 8
5.	Recognize the different phases of an animal's life cycle. CRP 7
6.	Identify symptoms, determine treatment and provide care of disease, illnesses, and parasites. CRP 6, 7
7.	Identify the parts of male and female reproductive tracts on simple animals. CRP 7
8.	Analyze the reproductive cycle of a given animal, and evaluate animal's readiness for breeding and heat detection. CRP 9

Understand animal behaviors in order to promote safety practices.	
9.	Explain the scope of normal animal behavior within a species/breed and assess factors which serve to stimulate or discourage given types of animal behavior. CRP 7
10.	Identify strengths and weaknesses of safe handling practices of animals, and demonstrate safe handling procedures. CRP 1, 3, 4, 5, 7, 10, 11
11.	Operate animal facilities to insure safety of animals and design facilities appropriate for the production of a given species of animal. CRP 1, 4, 7, 10, 11

Understand nutritional concepts to maintain optimal animal health.	
12.	Explain proper nutrition to maintain animal performance. CRP 6, 7
13.	Explain the spectrum of feeds and the nutritional requirements of the animal. CRP 7,11
14.	Select diets that provide the appropriate quality of nutrients for each animal's development stage, and determine appropriate feed rations. CRP 1, 4, 6, 7
15.	Identify the difference between good and poor quality feeds. CRP 7, 11

Understand the fundamentals of plant production and harvesting to produce a quality product.	
16.	Manipulate and evaluate environmental conditions (e.g., irrigation, shading) to foster germination, growth, and development. CRP 1, 4, 6, 9
17.	Evaluate and demonstrate transplanting practices. CRP 3, 7
18.	Describe and apply nutrient application methods and appropriate practices. CRP 4, 6, 7, 9
19.	Evaluate and determine permeability and chemical properties of media. CRP 6, 7, 8
20.	Identify and describe the biological functions of microorganisms of media. CRP 7, 9

Understand taxonomic or other classification as it relates to basic plant anatomy and physiology in order to identify plants and their similar needs and characteristics.	
21.	Identify and classify plants as monocots or dicots, and identify the life cycle of the plant (annuals, biennials, or perennial. CRP 7

Understand anatomy as applied to production and management of plants in a domesticated and a natural environment in order to produce a quality product.	
22.	Identify plant structures (e.g., seeds) and their functions within the plant. CRP 7

23. Describe germination process and conditions. CRP 7
24. Identify and practice methods of asexual and sexual plant propagation. CRP 6, 7
25. Describe the role of genetics in plants. CRP 5, 7

Rating Scale

1. No Exposure
2. Novice – Learner requires significant supervision.
3. Proficient – Learner demonstrates skills regularly.
4. Mastery – Learner demonstrates skills numerous times without supervision

Career Ready Practices (CRP)

1. Demonstrate creativity and innovation.
2. Model integrity, ethical leadership and effective management.
3. Attend to personal health and financial well-being.
4. Consider the environmental, social and economic impacts of decisions.
5. Act as a responsible and contributing citizen and employee.
6. Communicate clearly, effectively, and with reason.
7. Apply appropriate academic and technical skills.
8. Employ valid and reliable research strategies.
9. Use technology to enhance productivity.
10. Work productively in teams while using cultural/global awareness.
11. Utilize critical thinking to make sense of problems and persevere in solving them.
12. Plan education and career path aligned to personal growth.

Understand concepts, methods, and techniques related to pest management and apply safety practices to production and management of plants in a domesticated and a natural environment to insure a healthy product and working environment.	
26. Identify plant pests or diseases and their life cycles and symptoms. CRP 7	
27. Determine pest management methods for pests and diseases, including the possibility of resistance to treatment methods. CRP 7	
28. Implement and evaluate pest control plan with appropriate treatments for insects and diseases. CRP 4, 5, 7	

Understand the agricultural facilities that are necessary to enhance a domesticated and natural environment for efficient and profitable business operations.	
29. Conduct a site evaluation for physical conditions and design implications. CRP 4, 7	
30. Recognize the principles of design (e.g., space, scale, proportion) and how design tools are used in the industry. CRP 7, 9	
31. Create a design that includes a financial plan and the plants, hard goods supplies, and tools to be used. CRP 1, 4, 6, 7, 9	

Understand the fundamental concepts of entrepreneurship and how entrepreneurship influences the economy.	
32. Discuss and identify the skills and behaviors of being a business owner/entrepreneur (passion, confidence, self-motivation, tenacity, leadership, management, etc.) CRP 2, 4, 6, 7	
33. Discuss business possibilities, and identify the steps in planning a business as well as resources for a business startup and operation. CRP 7	
34. Discuss and develop a rudimentary business plan. CRP 6, 7	

Understand the necessary employability, career ready skills in order to achieve success in today's workplace.	
35. Demonstrate personal growth, community leadership, democratic principles and social responsibility by participating in activities/events offered through FFA and other student and professional organizations. CRP 2, 3, 10, 11, 12	

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