Virginia CTE

# Agriscience and Technology 8004 (2021)

| | | |
|---|---|---|
| Demonstrating Personal Qualities and Abilities | 1 | Demonstrate creativity and innovation A&T 1.1 |
| | 2 | Demonstrate critical thinking and problem solving. A&T 1.2 |
| | 3 | Demonstrate initiative and self-direction. A&T 1.3 |
| | 4 | Demonstrate integrity. A&T 1.4 |
| | 5 | Demonstrate work ethic. A&T 1.5 |
| Demonstrating Interpersonal Skills | 6 | Demonstrate conflict-resolution skills. A&T 2.6 |
| | 7 | Demonstrate listening and speaking skills. A&T 2.7 |
| | 8 | Demonstrate respect for diversity. A&T 2.8 |
| | 9 | Demonstrate customer service skills. A&T 2.9 |
| | 10 | Collaborate with team members. A&T 2.10 |
| Demonstrating Professional Competencies | 11 | Demonstrate big-picture thinking. A&T 3.11 |
| | 12 | Demonstrate career- and life-management skills. A&T 3.12 |
| | 13 | Demonstrate continuous learning and adaptability. A&T 3.13 |
| | 14 | Manage time and resources. A&T 3.14 |
| | 15 | Demonstrate information-literacy skills. A&T 3.15 |
| | 16 | Demonstrate an understanding of information security. A&T 3.16 |
| | 17 | Maintain working knowledge of current information-technology (IT) systems. A&T 3.17 |
| | 18 | Demonstrate proficiency with technologies, tools, and machines common to a specific occupation. A&T 3.18 |
| | 19 | Apply mathematical skills to job-specific tasks. A&T 3.19 |

| | |
|---|---|
| | 20 **Demonstrate professionalism.** A&T 3.20 |
| | 21 **Demonstrate reading and writing skills.** A&T 3.21 |
| | 22 **Demonstrate workplace safety.** A&T 3.22 |
| **Addressing Elements of Student Life** | 23 **Identify the purposes and goals of the student organization.** A&T 4.23 |
| | 24 **Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.** A&T 4.24 |
| | 25 **Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.** A&T 4.25 |
| | 26 **Identify Internet safety issues and procedures for complying with acceptable use standards.** A&T 4.26 |
| **Exploring Work-Based Learning** | 27 **Identify the types of work-based learning (WBL) opportunities.** A&T 5.27 |
| | 28 **(Optional) Reflect on lessons learned during the WBL experience.** A&T 5.28 |
| | 29 **Explore career opportunities related to the WBL experience.** A&T 5.29 |
| | 30 **(Optional) Participate in a WBL experience, when appropriate.** A&T 5.30 |
| | 31 **Identify the role of supervised agricultural experiences (SAEs) in agricultural education.** A&T 5.31 |
| | 32 **Participate in an SAE.** A&T 5.32 |
| **Exploring Leadership Opportunities through FFA** | 33 **Identify the benefits and responsibilities of FFA membership.** A&T 5.33 |
| | 34 **Describe leadership characteristics and opportunities as they relate to agriculture and FFA.** A&T 5.34 |
| | 35 **(Optional) Apply for an FFA degree and/or an agricultural proficiency award.** A&T 5.35 |
| **Becoming Oriented to Agriscience Technology** | 36 **Identify class rules, safety precautions, and procedures.** A&T 6.36 |
| | 37 **Explore new and emerging technologies in agriculture and agriscience.** A&T 6.37 |
| | 38 **Identify the components of an agricultural/agriscience research project.** A&T 6.38 |
| | 39 **Identify safety procedures in performing experiments.** A&T 6.39 |

| | | |
|---|---|---|
| | 40 | **Perform an agriculture/agriscience experiment.** A&T 6.40 |
| **Understanding Global Agriculture** | 41 | **Define terms related to trade.** A&T 7.41 |
| | 42 | **Explore global agriculture.** A&T 7.42 |
| | 43 | **Explain the relationship of global trade to Virginia agriculture.** A&T 7.43 |
| **Understading AFNR Businesses** | 44 | **Identify the significance of agribusiness in agriscience.** A&T 8.44 |
| | 45 | **Identify types of agribusiness.** A&T 8.45 |
| | 46 | **Identify risks inherent in agribusiness.** A&T 8.46 |
| | 47 | **Identify characteristics of an entrepreneur.** A&T 8.47 |
| | 48 | **Explore career opportunities related to agriculture, food, and natural resources (AFNR).** A&T 8.48 |
| **Understanding Agricultural Mechanics** | 49 | **Demonstrate safety practices.** A&T 9.49 |
| | 50 | **Demonstrate measuring skills.** A&T 9.50 |
| | 51 | **Interpret plans for constructing an agriculture project.** A&T 9.51 |
| | 52 | **Identify new and emerging equipment and tools in agriscience.** A&T 9.52 |
| | 53 | **Identify portable hand tools, portable power tools, equipment, and accessories.** A&T 9.53 |
| | 54 | **Demonstrate the use of hand tools, portable power tools, equipment, and accessories.** A&T 9.54 |
| | 55 | **Demonstrate woodworking skills.** A&T 9.55 |
| | 56 | **Explain the principles of electricity.** A&T 9.56 |
| | 57 | **Demonstrate basic electrical wiring skills.** A&T 9.57 |
| | 58 | **(Optional) Shape metal.** A&T 9.58 |
| | 59 | **(Optional) Explain the arc-welding process.** A&T 9.59 |
| | 60 | **(Optional) Operate arc-welding equipment.** A&T 9.60 |
| | 61 | **Explain the operating principles of small engines.** A&T 9.61 |
| **Exploring Animal Science** | 62 | **Categorize breeds of animals.** A&T 10.62 |

| | |
|---|---|
| | 63 **Identify equipment used in the care of companion and/or livestock animals.** A&T 10.63 |
| | 64 **Evaluate types of companion and/or livestock animal feed.** A&T 10.64 |
| | 65 **Explore healthcare and maintenance practices for companion and/or livestock animals.** A&T 10.65 |
| **Exploring Natural Resources** | 66 **Identify the importance of natural resource management.** A&T 11.66 |
| | 67 **(Optional) Determine the volume and value of timber.** A&T 11.67 |
| | 68 **Identify Virginia trees as sawtimber, pulpwood, and/or ornamentals.** A&T 11.68 |
| | 69 **(Optional) Explain soil fertility.** A&T 11.69 |
| | 70 **Discuss the importance of water to agriculture.** A&T 11.70 |
| | 71 **Analyze a water sample.** A&T 11.71 |
| **Exploring Horticultural Sciences** | 72 **Identify common garden, landscape, and interior plants.** A&T 12.72 |
| | 73 **Describe integrated pest management.** A&T 12.73 |
| | 74 **(Optional) Explore the principles of floral design.** A&T 12.74 |
| | 75 **(Optional) Explore the principles of landscape design.** A&T 12.75 |
| | 76 **(Optional) Identify common horticultural and landscape tools, equipment, technologies, and practices.** A&T 12.76 |
| **Exploring Food Science** | 77 **Explore the food industry as it relates to agriculture, agriscience, and agribusiness.** A&T 13.77 |
| | 78 **Research foodborne illnesses.** A&T 13.78 |
| | 79 **Describe methods of food processing and preservation.** A&T 13.79 |
| | 80 **Explain food labels.** A&T 13.80 |