Virginia CTE

Unmanned Aircraft Systems, Advanced (2023)

	20 Demonstrate professionalism. 20
	21 Demonstrate reading and writing skills. 21
	22 Demonstrate workplace safety. 22
Examining All Aspects of an Industry	23 Examine aspects of planning within an industry/organization. 23
	24 Examine aspects of management within an industry/organization. 24
	25 Examine aspects of financial responsibility within an industry/organization. 25
	26 Examine technical and production skills required of workers within an industry/organization. 26
	27 Examine principles of technology that underlie an industry/organization. 27
	28 Examine labor issues related to an industry/organization. 28
	29 Examine community issues related to an industry/organization. 29
	30 Examine health, safety, and environmental issues related to an industry/organization. 30
Addressing Elements of Student Life	31 Identify the purposes and goals of the student organization. 31
	32 Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult. 32
	33 Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects. 33
	34 Identify Internet safety issues and procedures for complying with acceptable use standards. 34
Exploring Work-Based Learning	35 Identify the types of work-based learning (WBL) opportunities. 35
	36 Reflect on lessons learned during the WBL experience. 36
	37 Explore career opportunities related to the WBL experience. 37
	38 Participate in a WBL experience, when appropriate. 38
Introduction to Unmanned Systems	39 Describe the goals of an unmanned system. 39
	40 Describe the types of UxS. 40
	41 Research careers related to UxS. 41

	65 Identify penalties for a drone operator for failure to adhere to P art 107 regulations. 65
	66 Identify the three classifications of flying in airspace. 66
Understanding the Basics of Weather	67 Demonstrate how to interpret a current weather report when planning UAS flight. 67
	68 Explain the weather's effect on flight performance. 68
Understanding the Basics of UAS Sensors	69 Define sensors. 69
	70 Research sensor types. 70
	71 Infer sensor requirements from scenarios. 71
Collecting, Analyzing, and Editing Data	72 Capture data using a UAS platform. 72
	73 Edit data collected from a UAS platform. 73
	74 Demonstrate how to download data from sensors. 74
	75 Analyze data from sensors. 75
	76 Create a defined deliverable. 76
Exploring Solutions for Flight Problems	77 Create solutions for common flight problems. 77
	78 Perform mission planning. 78
Identifying Motors and Batteries	79 Describe the motors used on UAS. 79
	80 Describe the use of battery connector and wires. 80
	81 Describe lithium polymer (LiPo) batteries. 81
	82 Describe how to safely use LiPo batteries. 82
Soldering and Building a Drone	83 Explain the need for soldering. 83
	84 Demonstrate the proper use of soldering tools. 84
Troubleshooting and Repairing	85 Describe safe practices in repair and handling of UAS components. 85
	86 Repair circuits. 86

112 **Review processed maps and data.** 112

113 **Prepare technical report.** 113