SWEETWATER UNION HIGH SCHOOL DISTRICT

DIVISION OF ADULT EDUCATION

Career Technical Education

## Introduction to Computers for sUAS

### COURSE APPROVAL

Mission: The Division of Adult Education, a community-focused organization, promotes and facilitates life-long learning for adults to meet the challenges of the 21st century.

Student Learning Outcomes

* Students will establish personal, academic and/or workforce goals and demonstrate progress toward them
* Students will solve problems
* Students will communicate clearly and collaborate with others
* Students will use resources, including technology, to research, organize and communicate information

##### Course approved by the Sweetwater Board of Trustees

May 1 ,2019

##### Course Revision:

## Introduction to Computers for sUAS

# Basic Course Information

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| **Course Title:** | **Introduction to Computers for sUAS** |
| **CTE Industry Sector:** | **Information Technology Industry** |
| **Career Pathway:** | **Software and Systems Development** |

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| **Course Level:** | x | Introductory |  | Concentration |  | Capstone |

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| **Course Number:** | **0679** |
| **CBEDS Title:** |  |
| **CBEDS Number:** | **8110** |

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| Course Hours: | Approximately 144 hours |
| Prerequisites: | No Prerequisite. |
| Evaluation: | 1. Instructor observation. and assessment of student proficiency in mastering class lessons and over-all operational procedures; 2. Satisfactory attendance and participation in class activities as evaluated by the instructor. 3. Performance-based testing; student demonstrates computer proficiency. |
| Conditions for Repetition: | Students who have failed to satisfactorily meet the course objectives because of insufficient attendance or inability to master content may, with permission, repeat the course. |
| **Articulation Information:** |  |
| **Articulation Credit:** |  |
| **High School elective Credit:** |  |
| **Advisory Committee Meetings:** | **Annually** |

**Course Description**

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| Introduction to Computers for sUAS is a 9-week course that introduces students to the technology and resources needed for sUAS operation. Students will become familiar with operating the computer while learning how access FAA rules and regulations, aviation weather forecasts, and apps used for flight operation and planning. Students will take the Part 107 Small Unmanned Aircraft Systems Small UAS initial certification. |

**Instructional Strategies**

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| Teacher lecture and demonstration 10%  Teacher supervision of lab work 80%  Instructor/student consultations 10% |

**Instructional Materials**

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| Textbooks: |

**Career Plan: How this Course fits into the Course Sequence**

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| **Sequence of Courses** | **Course Level** | | | **Primary Funding Source** | | **Perkins**  **Funded** | **Total Duration** |
| Name of Course | Intro. | Concentration | Capstone | District/COE | ROCP | Yes or No | (In hours) |
| Introduction to Computers for sUAS | X |  |  |  |  | Yes | 144 |
| * Student can choose from the following groups: | | | | | | | |
| sUAS Safety Ground School |  |  |  |  |  | Yes | 144 |
| Unmanned Aircraft Systems Operations |  |  |  |  |  | Yes | 144 |

**Occupations for Identified Pathway**

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| Pathway occupations organized by level of education and training required for workplace entry.(Asterisked occupations require certification or licensure.) | |
| Postsecondary Training (certification and/or AA degree) | College University (bachelor’s degree or higher) |
| * FAA 107 Certification | • |

# Course Goals

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| 1. Gain an introduction to the course and employment as a drone pilot. |
| 1. Gain basic computer skills and learn about applications used in the industry. |
| 1. Use online applications to research weather patterns and plan a flight. |
| 1. Register with the FAA and complete the FAA 107 initial certification. |
| 1. Become familiar with the documentation used pre and post flight. |
| 1. Gain hours on a drone flight simulator. |

# Instructional Module/Unit

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| **Unit 1** | **Introduction** | Class Hrs. | 2 | Lab Hrs. | **3** |

Description:

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| Students gain an introduction to the course and learn class expectations. They are introduced to the common traits exhibited by people successfully working in this field, personal qualifications, interests, aptitudes, and knowledge of skills necessary to succeed this career pathway. |
| **Unit 1 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Identify the personal qualifications, interests, aptitudes, knowledge and skills of successful drone operators. |
| **2.** Demonstrate an understanding of personal, professional, and educational requirements of this career field.FAA |

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| **Unit 2** | **Computer Applications** | Class Hrs. | 5 | Lab Hrs. | **25** |

Description

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| Students will gain an introduction computer basics and the different applications that they will need to be familiar with when working as a drone pilot. |
| **Unit 2 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Identify the parts a computer. |
| **2.** Use Microsoft Office Programs to create forms and checklists necessary for flight planning and maintenance. |
| **3.** Use Google Chrome and Internet Explorer to do research and planning. |
| **4.** Use email to communicate with instructor and classmates. |
| **5.** Download and run Google Earth. |
| **6.** Use the internet to research drones and drone related news and information. |
| **7.** Fill out a pre-flight checklist and maintenance log . |

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| **Unit 3** | **Weather** | Class Hrs. | 7 | Lab Hrs. | **25** |

Description:

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| Students will become familiar with Google Earth, B4UFly and other applications and websites used to check weather conditions before a flight. Students will also learn about METAR reports and how they are used. |
| **Unit 3 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Access and pull data from Aviation Weather Center. (www.aviationweather.gov) |
| **2.**Research, Download and use free weather phone apps such as AeroWeather, B4UFly, UAV Forecast, Hover, AirMap, |
| **3.** Explain what a METAR report is and what it is used for. |

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| **Unit 4** | **FAA** | Class Hrs. | 7 | Lab Hrs. | **10** |

Description

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| Students will register for an account with the FAA and learn about the educational and informational opportunities available through the website. |
| **Unit 4 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Access the FAA website for information and free educational opportunities pertaining to the FAA 107 certification and training. |
| **2.** Complete an incident report with the FAA. |
| **3.** Request special access from Air Traffic Control. |
| **4.** Complete the Part 107 Small Unmanned Aircraft Systems (small UAS) initial certification on the FAA website. |

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| **Unit 5** | **Drone Flight Simulation** | Class Hrs. | 10 | Lab Hrs. | **50** |

Description

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| Students become familiar with flight simulators and gain flight time by using them in the classroom. |
| **Unit 6 Competency:** Upon Completion of this unit, the student is able to: |
| 1. Successfully use a drone simulator in the classroom setting. |

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| **Totals** | **Theory Hrs.** | **31** | **Lab Hrs.** | **113** | **Total Hrs.** | **144** |