# **Course Alignment for AVT 1103 FlexPace (1 cr hr)**

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| **CO 1** | Demonstrate an understanding of the sections that will be tested in the Part 107 examination. |
| **CO 2** | Examine Part 107 Regulations for commercial use of UAS. |
| **CO 3** | Examine the process and requirements to take the FAA Part 107 examination. |

**Note:** Course Objectives are institutionally mandated and taken from the [Master Syllabus](https://cmt.sinclair.edu/#reports.mastersyllabus).

# **Course Structure and Alignment**

**Note:** Topic Objectives are developed by the course coordinator to align with the Course Objectives.

| **Topic Name** | | **Topic/Module Objectives** | **CO #** | **Materials** | **Activities** | **Assessments** |
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| **1** | **Unit 1-1 |** Introductions and Part 107 Information | TO 1 Identify the requirements to earn a Remote Pilot Certificate | 1, 3 | * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| TO 2 Describe the process and applicable knowledge areas required to earn a Remote Pilot Certificate | 1, 3 | * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| TO 3 Explain the difference between FAA certification and training to operate a particular sUAS | 1, 3 | * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| **2** | **Unit 1-2 |** sUAS Regulations  Applicable FAA Test Topic: Regulations | TO 1 Apply key parts of Title 14 Part 107 | 1, 2 | * 14 CRF Part 107 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| TO 2 Describe key parts of Advisory Circular (AC) 107-2 | 1, 2 | * AC 107-2 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| TO 3 Describe the Part 107 waiver process | 1, 2 | * 14 CRF Part 107 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| **3** | **Unit 1-3 |** Airspace, Operations and Flight Requirements  Applicable FAA Test Topic: Airspace and Requirements | TO 1 Describe the airspace classifications within the National Airspace System | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 2 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| TO 2 Identify the types of Special Use Airspace and other airspace areas | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 2 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| TO 3 Explain the role of Air Traffic Control (ATC), Visual Flight Rules Terms and Symbols, and the U.S. Notice to Air Missions ( NOTAMs ) | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 2 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 1 Pre-Assessment * Topic Quizzes (if needed) * Unit 1 Post-Assessment (if needed) |
| **4** | **Unit 2-1 |** Aviation Weather Sources  Applicable FAA Test Topic: Weather | TO 1 Identify the sources of Aviation Weather Observations | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 3a * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 2 Describe how to find and read Aviation Routine Weather Report (METAR) and Terminal Aerodrome Forecasts (TAF) | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 3a * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 3 Identify the significance of Convective Significant Meteorological Information (WST) | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 3a * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 4 Apply weather information to Part 107 requirements | 1,2 | * 14 CRF Part 107 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| **5** | **Unit 2-2 |** Weather and UAS Performance  Applicable FAA Test Topic: Weather | TO 1 Define Density Altitude and measurements of atmospheric pressure | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 3b * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 2 Identify where and how various weather types are formed | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 3b * Learning Activities | * Read assigned materials * Review topic resource * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 3 Describe various types of adverse weather phenomena and their effects on sUAS | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 3b * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| **6** | **Unit 2-3 |** Small Unmanned Aircraft Loading  Applicable FAA Test Topic: Loading and Performance | TO 1 Define key terminology applicable to sUAS loading | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 4 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 2 Describe load factor and its effect on stall speed. | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 4 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 3 Describe the effects of aircraft weight and balance on aircraft performance and stability | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 4 * Learning Activities | * Read assigned materials * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| **7** | **Unit 2-4|** Determining the Performance of sUAS  Applicable FAA Test Topic: Loading and Performance | TO 1 Recognize the effects of temperature, humidity, and altitude on atmospheric density | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 8 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| TO 2 Describe where to find operation and performance data for a particular aircraft. | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 8 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 2 Pre-Assessment * Topic Quizzes (if needed) * Unit 2 Post-Assessment (if needed) |
| **8** | **Unit 3-1 |** Emergency Procedures & Crew Resource Management  Applicable FAA Test Topic: Operations | TO 1 Identify a remote pilot’s authorities during an aircraft emergency | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 5 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 2 Identify a remote pilot’s responsibilities during and after an aircraft emergency | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 5 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 3 Describe key concepts related to Crew Resource Management and Single-Pilot Resource Management | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 10 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| **9** | **Unit 3-2 |** Radio Communication Procedures  Applicable FAA Test Topic: Operations | TO 1 Describe basic aviation radio practices and basic radio phraseology | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 7 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 2 Identify airport air traffic radio advisory procedures | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 7 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 3 Explain the use of aircraft call signs | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 7 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| **10** | **Unit 3-3 |** Physiological Factors  Applicable FAA Test Topic: Operations | TO 1 Describe Physiological/Medical Factors that Affect Pilot Performance | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 9 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 2 Describe the Part 107 requirements related to pilot and visual observer (VO) and Physiological/Medical Factors as well as effects of drugs and alcohol | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 9 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 3 Identify visual scanning techniques | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 9 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| **11** | **Unit 3-4 |** Aeronautical Decision Making and Judgment  Applicable FAA Test Topic: Operations | TO 1 Describe the key parts of Aeronautical Decision Making | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 10 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 2 Define Risk Management and Hazard and Risk Analysis | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 10 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 3 Identify key elements, models, and processes in the Decision-Making Process and in Dynamic Environments | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 10 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 4 Describe key aspects of Situations Awareness | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 10 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| **12** | **Unit 3-5 |** Airport Operations  Applicable FAA Test Topic: Operations | TO 1 Define the types of airports | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 11 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 2 Identify sources of airport data and the risks of towers. | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 11 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 3 Demonstrate the use of different types of aeronautical charts and apply magnetic variation. | 1, 2 | * FAA Remote Pilot – sUAS Study Guide, Chapter 11 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| **13** | **Unit 3-6 |** Maintenance  Applicable FAA Test Topic: Operations | TO 1 Identify the source of sUAS maintenance requirements and type of maintenance applicable to sUAS. | 1, 2 | * AC 107-2A Chapter 7 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 2 Describe the requirements for a sUAS preflight inspection. | 1, 2 | * AC 107-2A Chapter 7 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| TO 3 Describe maintenance and inspection best practices and recordkeeping | 1, 2 | * AC 107-2A Chapter 7 * Learning Activities | * Read assigned course material * Review topic resources * Prepare for and complete assessments and quizzes | * Unit 3 Pre-Assessment * Topic Quizzes (if needed) * Unit 3 Post-Assessment (if needed) |
| **14** | **Unit 4 | FAA Part 107 Test Review and Final Exam** | Assignment: Create Preflight Checklist | 1, 2, 3 | * Previous course material | * + Review all course material | * + Assignment grade and feedback   + Final exam   + FAA Part 107 exam (optional) |
| Prepare to take the FAA Part 107 Exam and Final Exam | 1, 2, 3 | * Previous course material | * + Review all course material | * + Final exam   + FAA Part 107 Remote Pilot Knowledge Exam (optional) |