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

|  |  |
| --- | --- |
| **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** |
| --- | --- | --- | --- | --- | --- |
| **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 RegulationsApplicable 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 RequirementsApplicable 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 SourcesApplicable 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 PerformanceApplicable 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 LoadingApplicable 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 sUASApplicable 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 ManagementApplicable 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 ProceduresApplicable 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 FactorsApplicable 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 JudgmentApplicable 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 OperationsApplicable 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 |** MaintenanceApplicable 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)
 |