Course Information Form (CIF)

Course Code: AVI 113

Course Title: Drone Data Collection and Application

Department: Aviation
Effective Date: Summer 2026
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 49.0199
Repeatability: 0

Credit Hours

Catalog Notation: 3-0-3
Credit Hour Distribution:

Lecture: 3	Lab: 0	Clinical: 0	**Total: 3**

General Course Information

Catalog Description

Introduction to basic drone data collection and application for various industries including agriculture, real estate, inspections, and media. Includes mission planning, autonomous flights, crew management, data collection, and data analysis while emphasizing legal and safe operations.

General Course Objectives

Students will be able to plan and implement UAS missions to collect and analyze data as well as understanding post-processing techniques. They will understand the components, equipment, and technology to be utilized to complete their mission.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

None

Methods of Evaluation

2-4 exams; 4-6 quizzes; 6-8 homework assignments; 3-5 exercises; 2-4 in class activities; 1 final exam.

Instructional Materials and Additional Supplies

Reading material supplied via COBRA student portal

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Introduction	1. Describe the different types of UAS and select the appropriate one for the mission.	3	0	0
Equipment	1. Explain the components, equipment, and technology to set up a mission-capable drone. 2. Describe both normal and emergency procedures.	6	0	0
Digital Imaging	1. Explain the basic fundamentals of digital imagery including still, video, and NDVI. 2. Describe the basic camera functions and settings.	6	0	0
Mission Planning and Data Acquisition	1. Construct a mission to acquire the desired data. 2. Demonstrate knowledge of proper procedures and safety considerations. 3. Collect still or video imagery while operating a UAS and verify data acquisition. 4. Collaborate as part of a team to create a viable mission and collect data.	15	0	0
Post Processing and Delivery	1. Utilize post processing techniques and interpret the results to obtain desired products.	15	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	0	0