

DRONE TECHNOLOGY AND APPLICATIONS

Certificate of Proficiency Career/Technical (Major Code: 01672)

The Drone Technology and Applications Certificate of Proficiency program will introduce students to how drones are being applied in their specific field of study. These fields include (but are not limited to) environmental science and management, real estate, journalism, search and rescue, precision agriculture, disaster response and management, fire science, maintenance and operations, law enforcement, photography and videography, mapping and surveying, remote sensing, fire science, and cultural resource management. This program will provide students with skills in sUAS operations specific to their chosen field of study.

Program Student Learning Outcomes

- Student will analyze FAA regulations governing safe and responsible operation, licensing and registration requirements of small Unmanned Aerial Systems (sUAS).
- Student will assess and analyze a variety of problems that can be potentially solved using a UAS, and identify appropriate solutions.
- Student will process and analyze data gathered from a UAS.
- Student will describe the functions and limitations of various UAS hardware components (e.g. battery, gimbal, GPS module, flight controller, frame, sensor), and identify the appropriate components for particular applications.
- Student will discuss the social, ethical, economic, and legal implications of UAS operations on individuals, organizations, and society in general.
- Student will research how drones are being employed in specific disciplines.

Code	Title	Units
Core Courses:		
GEOG/AERO 107	REMOTE PILOT GROUND SCHOOL	1
GEOG/AERO/FTMA 108/ART 188	INTRODUCTION TO DRONE TECHNOLOGY AND APPLICATIONS	3
Choose one elective course from the list below:		3-5
ART 205	BEGINNING DIGITAL PHOTOGRAPHY	
EHMT 150	WASTE MANAGEMENT APPLICATIONS	
GEOG 145	INTRODUCTION TO MAPPING AND GEOGRAPHIC INFORMATION SYSTEMS (GIS)	
CI 70	INSPECTION OF ARCHITECTURAL DETAILS AND STRUCTURAL INSPECTION	
CI 90	CONSTRUCTION PROJECT MANAGEMENT	
GEOG 100	PRINCIPLES OF GEOLOGY	
BIOL 140	ENVIRONMENTAL BIOLOGY	
LNT 136	INTEGRATED PEST MANAGEMENT	
LA 201	ADVANCED COMPUTER-AIDED LANDSCAPE DESIGN	
FTMA 102	INTRODUCTION TO MOTION PICTURE PRODUCTION	

ART 131	INTRODUCTION TO MOTION PICTURE PRODUCTION	
FTMA 112	MOTION PICTURE PRODUCTION I	
ART 132	MOTION PICTURE PRODUCTION I	
FTMA 124	DOCUMENTARY VIDEO PRODUCTION	
FS 101	FIRE PROTECTION ORGANIZATION	
FS 102	FIRE BEHAVIOR AND COMBUSTION	
Total Units		7-9

Note: Students will take two drone core courses and then select an elective that reflects their area of interest. Elective tracks include: Photography/Videography (ART 205), Environmental Waste Management (EHMT 150), Mapping (GEOG 145), Construction Inspection (CI 70 or CI 90), Geology (GEOG 100), Environmental Biology (BIOL 140), Plant Pest and Disease Control (LNT 136), Landscape Architecture (LA 201), Film and Video (FTMA 102, FTMA 112, or FTMA 124), and Fire Science (FS 101 or FS 102). Other electives can be used upon the approval of the Program Director.