STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

MASTER SYLLABUS

FLHT 104 – UAS Missions: Drone Photography

For available course numbers, contact the Registrar's Office at registrar@canton.edu

CIP Code: 49.0109
For assistance determining CIP Code, please refer to this webpage
https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55
or reach out to Sarah Todd at todds@canton.edu

Created by: Michelle Burke
Updated by:

School:
Department:
Implementation Semester/Year: Fall 2026

A. TITLE: UAS Missions: Photography

B. COURSE NUMBER: FLHT 104

C. CREDIT HOURS (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity):

# Credit Hours per Week	3
# Lecture Hours per Week	2
# Lab Hours per Week	2
Other per Week	

D. WRITING INTENSIVE COURSE:

Yes	
No	x

E. GER CATEGORY:

Does course satisfy a GER category(ies)? If so, please select all that apply.

[1-2] Communication	
[3] Diversity: Equity, Inclusion & Social Justice	
[4] Mathematics & Quantitative Reasoning	
[5] Natural Science & Scientific Reasoning	
[6] Humanities	
[7] Social Sciences	
[8] Arts	
[9] US History & Civic Engagement	
[10] World History & Global Awareness	
[11] World Languages	

F. SEMESTER(S) OFFERED:

Fall	
Spring	
Fall and Spring	x

G. COURSE DESCRIPTION:

This course will prepare participants to systematically plan, execute, and analyze UAS (Unmanned Aircraft Systems) missions, taking on roles such as Remote Pilot in Command (RPIC), Visual Observer (VO), and Person Manipulating Controls (PMC). Students will gain experience in flight planning, risk assessment, drone operations, and professional post-production editing using industry-standard software. By the end of the course, students will have a portfolio of aerial photographs and videos, demonstrating their ability to manage UAS missions effectively.

H. PRE-REQUISITES: FLHT 101 & FLHT 102 OR FAA Part 107 Certificate holder
CO-REQUISITES:

I. STUDENT LEARNING OUTCOMES:

Course Student Learning Outcome [SLO]	Program Student Learning Outcome [PSLO]	GER	ISLO & Subsets
a. Understand and apply FAA regulations, airspace restrictions, and legal UAS operations.	N/A		ISLO 2 [CA]
b. Demonstrate mission planning, risk assessment, and crew role execution.	N/A		ISLO 2 [PS]
c. Capture and edit professional-grade aerial imagery.	N/A		ISLO 5
d. Maintain detailed flight and maintenance documentation.	N/A		ISLO 5
e. Collaborate with community partners and present final capstone projects.	N/A		ISLO 4 [T]

KEY	Institutional Student Learning Outcomes [ISLO 1 – 5]
ISLO #	ISLO & Subsets
1	Communication Skills Oral [O], Written [W]
2	Critical Thinking Critical Analysis [CA], Inquiry & Analysis [IA], Problem Solving [PS]
3	Foundational Skills Information Management [IM], Quantitative Lit, /Reasoning [QTR]
4	Social Responsibility Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]
5	Industry, Professional, Discipline Specific Knowledge and Skills

J. APPLIED LEARNING COMPONENT:

Yes	x
No	

If yes, select [X] one or more of the following categories:

Non-Clinical Practicum	x	Community Service	
Internship		Civic Engagement	
Clinical Practicum		Creative Works/Senior Project	
Practicum		Research	
Service Learning		Entrepreneurship [program, class, project]	

K. TEXTS:

No formal textbook required. FAA Part 107 regulations document and instructor-provided materials.

L. REFERENCES:

FAA; DroneZone, LAANC Authorization Tools; DroneDeploy, AirMap

M. EQUIPMENT:

UAS with camera
Spare batteries & chargers
SD cards
Safety vests
Editing software
FAA-compliant drone cases
Toolkit (props, tools, lens cleaners)

N. GRADING METHOD:

Standard letter grading (A-F)

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:

Mission Planning & Flight Execution: 30%
Flight & Maintenance Logs: 15%
Aerial Photography & Videography: 25%
Post-Production & Editing: 20%
Final Capstone Project & Presentation: 10%

P. DETAILED COURSE OUTLINE:

I. Intro to UAS Missions & Crew Roles

A. FAA Part 107 Regulations
B. Roles: RPIC, VO, PMC
C. Communication and Coordination

II. Mission Planning & Risk Management

A. Weather, airspace, LAANC
B. Safety protocols and logs
C. Mission objectives and client needs

III. Drone Systems & Camera Settings

A. Gimbals, sensors, ISO, shutter
B. White balance, color profiles
C. Hands-on drone/camera calibration

IV. Flight Ops & Aerial Techniques

A. Framing, composition, movement shots
B. HDR, panoramas, community missions
C. Image capture practices

V. Post-Production & Editing

A. Image/video enhancement
B. Client-ready deliverables
C. Final mission prep

VI. Advanced Techniques

A. Mapping, 3D models, thermal (optional)
B. Project-based practice

VII. Capstone Mission & Presentation

A. Final Mission Execution
B. Presentation of Media
C. Course reflection

VIII. Review and Wrap-Up

A. Recap key learning
B. Industry/career discussions
C. Final assessment

Q. LABORATORY OUTLINE:

Hands-on labs integrated weekly:
- Drone flight training
- Mission simulations
- Editing labs using Adobe/Davinci
- Equipment maintenance and calibration
- Field-based community project work