DGA C150: DRONE PHOTOGRAPHY AND VIDEOGRAPHY

Item	Value
Curriculum Committee Approval Date	09/15/2017
Top Code	061400 - Digital Media
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)

Course Description

Students will receive instruction in digital imaging, cinematography, colorization and photo editing while participating in hands-on or virtual flight activities to develop, practice, and optimize Unmanned Aircraft System flight and photography skills. Students will learn how to manage and edit photographic imagery captured by drones. High-end photo equipment and drones or drone-simulators will be used. This course is a media management and image editing course for drone operators, which focuses on developing careers in digital media capturing and editing images for a variety of industries across multiple sectors. Some information pertaining to FAA certifications will be discussed; this is not an FAA certification course. Enrollment Limitation: DMD C150; students who complete DGA C150 may not enroll in or receive credit for DMD C150. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Given a drone (small unmanned aerial vehicle) and a camera or drone-simulator, capture and edit still images from an aerial perspective.
2. Given a drone (small unmanned aerial vehicle) and a camera or drone-simulator, capture and edit video content captured from an aerial perspective.
3. Demonstrate flight skills that are appropriate for capturing cinematic imagery.

Course Objectives

- 1. Demonstrate the ability to operate a small drone (small unmanned aerial vehicle) and/or a simulator and capture still photos and video from it.
- 2. Select the proper equipment required for small unmanned aerial vehicle Photography and Videography.
- 3. Describe the terminology related to the unmanned aerial vehicle industry.
- 4. Display knowledge of photographic skills specifically related to aerial photography and videography.

Lecture Content

Equipment Unmanned Aerial Vehicles (UAVs) Choosing Proper Equipment Multi-rotor Helicopter Fixed-wing Where to Buy Equipment Top Manufacturers Dos and donts of Equipment Purchases Maintenance Trouble-Shooting Choosing the Right Battery Power Cameras Still Capture Lens Choices Camera Choices Filters Video Capture Proper Equipment Packing Procedures Flying Flight Simulation Flight Planning Gimbal Skills Hovering and Tilting Aerial Hardware Flight Patterns Drone Handling Skills Waypoint Navigation Safety Operating Guidelines Liability Coverage The Law Certification to Fly Rules The Business of Radio Control UAV (Drone) Aerial Photography Business Possibilities Real Estate Agriculture Commercial Architecture Landscape Outdoor Sports coverage Public Safety Oil and Gas Exploration Search and Rescue Wildlife Documentary Contracting Customers Networking within the Industry Pricing Your Services Insurance The Future Aerial Photography Shot Options Lighting Camera Settings The Weather Composition Editing Panoramas (Vertical and Horizontal) Tiny Planets and Other Creative Techniques Aerial Videography Editing Footage Stabilization Final Cut Pro X Adobe Premier DaVinci Resolve Audio Special Effects Terminology

Method(s) of Instruction

- Lecture (02)
- DE Online Lecture (02X)

Instructional Techniques

A variety of instructional techniques will be employed to encompass different student learning styles. These may include but are not limited to lecture, discussion, projects, and small group activities and demonstrations. Instruction will be supplemented, where appropriate, by digital media presentations and resources, guest speakers, and field trips. Online courses will use an online simulator.

Reading Assignments

Assignments that demonstrate critical thinking: Project critiques will include an analysis of camera techniques, lighting, and picture content. They will use visual elements, photographic equipment, materials, and techniques to communicate ideas and information. All image-making assignments involve multiple levels of decision making and critical thinking to accomplish the technical and aesthetic needs necessary to produce effective pictures. Analysis critiques, written papers, and written exams will also necessitate critical thinking.

Writing Assignments

A written research paper discussing job possibilities in this newly developing industry is required. Students discover which particular directions are of interest to them and why.

Out-of-class Assignments

Participation in local field trip activities where students fly drones and/or use an online simulator. Produce edited still and video images from these activities.

Demonstration of Critical Thinking

Students will plan and create photographic projects and video editing projects in a variety of settings using small unmanned aerial vehicle-specific, career-based methodologies.

Required Writing, Problem Solving, Skills Demonstration

For each project students will be required to create flight plans, flight logs, and risk management logs which demonstrate an understanding of all aspects of flight from pre-flight planning to post-production of content.

Eligible Disciplines

Graphic arts (desktop publishing): Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience. Multimedia: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Aitken, Paul. Livin the Drone Life, ed. Lioncrest Publishing, 2016

Other Resources

1. Coastline Library 2. RealFlight Drone Flight Simulator (for online course only) 3. Course uses Online resources, Open Educational Resources (OER), and Zero Textbook Cost (ZTC) Resources.