



ADVANCED TECHNOLOGY DIVISION  
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**2 Year Associates degree in Commercial Unmanned Aerial Systems**

**Year 1**

**Fall:**

FT 141 Private Pilot Stage 1	6 cr.
FT 124A UAS Flight Lab	1 cr.
FT 250 Private Pilot Gr. School	5 cr.
FT 123 Commercial UAS G.S.	1 cr.
	<b>13 cr.</b>

**Winter:**

FT 142 Private Pilot Stage 2	3 cr.
FT 121 UAS Platform	4 cr.
FT 124B UAS Flight Lab	1 cr.
ART 261 Photography 1	3 cr.
WR 121 Academic Composition	4 cr.
	<b>15 cr.</b>

**Spring:**

FT 143 Private Pilot Stage 3	3 cr.
FT 122 Ground Control/Comms	4 cr.
MTH 111 College Algebra	5 cr.
FT 124C UAS Flight Lab	1 cr.
MUL 105 Digital Photo. or ART 282	4 cr.
	<b>17 cr.</b>

**Summer Term**

GS 109 Meteorology	5 cr.
FT 124D UAS Flight Lab	1 cr.
	<b>6 cr.</b>

**Year 2:**

**Fall:**

FT124E UAS Flight Lab	1 cr.
FT 231 Advanced Sensor	4 cr.
GIS 151 Digital Earth ( <b>DS</b> )	4 cr.
FT 230 UAS Data Acquisition & Analysis	3 cr.
	<b>12 cr.</b>

**Winter:**

FT 254 Aerodynamics	3 cr.
GIS 245 GIS 1 or DRF 160	4 cr.
PE or Health	3 cr.
Choice of COMM	4 cr.
COMM 130	
COMM 218	
COMM 219	
	<b>14 cr.</b>

**Spring:**

FT124F UAS Flight Lab	1 cr.
FT 235 Capstone Project	4 cr.
GIS 246 GIS 2 or DRF 220	4 cr.
FT 103 Aviation Safety Dev	4 cr.
	<b>13 cr.</b>

**Program Total: 90 credits**

This program is designed to produce safe and proficient drone pilots. This program is geared at drone pilots who desire more than just the basic training. In this program students achieve a Private Pilot's License along with their Remote Pilot's License. This additional license opens up a larger range of operations to students such as flying larger drones or Beyond Visual Line of Sight operations.

Along with extensive UAS training students will also be required to complete GIS or Drafting classes in order to better understand the application of the data they are gathering by the drone.

**UAS Career Pathway: Multi-copter GIS**

**(PENDING APPROVAL)**

**Year 1:**

**Fall:**

GIS 151 Digital Earth	4 cr.
FT 124A UAS Flight Lab	1 cr.
FT 123 Commercial UAS G.S.	1 cr.
FT 250 Private Pilot Gr. School	5 cr.
FT 230 UAS Data Acquisition & Analysis	3 cr.

**14 cr.**

**Winter:**

GIS 245 GIS 1	4 cr.
FT 124B UAS Flight Lab	1 cr.

**5 cr.**

**Spring:**

FT 124C UAS Flight Lab	1 cr.
GIS 246 GIS 2	4 cr.

**5 cr.**

**Summer Term**

FT 124D UAS Flight Lab	1 cr.
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**1 cr.**

**Program Total: 25 credits**

FT124- Repeatable up to 7 credits

This career pathway is designed for students who want to combine a basic knowledge of UAS with GIS. In this pathway, students will get training in preparation for a FAA Remote Pilot's license (necessary for Commercial Drone operations) and hands on drone pilot training. Along with this training they will take one year of GIS classes.

UAS Career Pathway: Aerial Photographer

**(PENDING APPROVAL)**

Year 1:

Fall:

FT 124A UAS Flight Lab	1 cr.
FT 123 Commercial UAS G.S.	1 cr.
FT 250 Private Pilot Gr. School	5 cr
	<b>7 cr.</b>

Winter:

FT 124B UAS Flight Lab	1 cr.
MUL 105 or ART 282	4 cr
	<b>5 cr.</b>

**Program Total: 12 credits**

In this career pathway students will learn the basics of commercial drone operations. This involves preparation for testing to receive a Remote Pilot's certificate and hands on drone pilot training. Along with this training is a directed elective in either Digital Photography or Landscape and Architecture photography.

This is a list of the specific UAS Courses:

#### **FT121 UA Platforms and Systems**

**This course gives students an overview of the platforms and systems used in small unmanned aircraft. It will encompass both fixed wing and multi-rotor aircraft and look at the subsystems of these aircraft. There will be simulator and hands-on training provided in the lab portion of the class.**

#### **FT122 UA Ground Control Systems**

**This course gives students an overview of the Ground Control Station (GCS) used in unmanned aircraft. It will encompass both mobile and permanent GCS's and encompass multiple launch and recovery systems. There will be simulator and hands-on training provided in the lab portion of the class.**

#### **FT123 UAS Commercial Test Prep**

**This course is designed to help students prepare to take the FAA UAS written examination in order to get their Remote Pilot Airman's Certificate. It will be divided into five parts: Aircraft Operation, Regulations, National Airspace System, Weather, and Performance.**

#### **FT124 UAS Flight Lab**

**This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.**

#### **FT230 UAS Data Acquisition and Analysis**

**This course establishes an advanced understanding of the data link, radio communications, crew resource management, autopilot operations and data analysis associated with commercial UAS flight. An emphasis will be placed on enhancing mission safety and autonomous flight.**

#### **FT231 UAS Advanced Sensor**

**This course furthers a UA operator's knowledge in aerial photography and the data collection. It emphasizes the use of advanced image technology for data collection and analysis. Students gain skills in basic photography, aerial photography techniques, and data interpretation presentation.**

#### **FT235 UAS Capstone Project**

**This course is designed to have students compile and showcase their UAS work from their time at LCC. The course would also connect students with organizations in the community to allow them to showcase a real world project that would demonstrate their knowledge and skills.**