

# UNMANNED AERIAL SYSTEMS (UAS) OPERATIONS - ASSOCIATE OF APPLIED SCIENCE (AAS)

## Description

The Unmanned Aerial Systems Operations Associate of Applied Science trains individuals to work as professional unmanned aerial systems (UAS) operators in the national/international arena. Students will learn to operate UAS, including conducting mission/pre-flight planning, mission briefings, and programming. They will learn how to obtain and evaluate weather forecasts, Notice to Airmen (NOTAMs), Special Instructions (SPINs), and airspace requirements. Students will be taught to perform limited UAS and ground support equipment testing, troubleshooting, and maintenance.

The UAS degree prepares students for a rapidly growing industry with many civilian applications, including agriculture, search and rescue, monitoring environment and wildlife, border security, fire mapping, surveying structures after natural disasters, real estate photography, and police surveillance.

## Program Learning Outcomes

Upon successful completion of the degree, students will be able to:

1. Recall various unmanned aerial systems platforms, sensors, and terminology.
2. Apply of Federal Aviation Administration regulations/requirements necessary to commercially operate unmanned aerial systems.
3. Configure unmanned aerial platforms with sensors appropriate to the prescribed operation.
4. Plan an unmanned aerial system operation for safe execution.
5. Operate unmanned aerial systems safely in a real-world environment.
6. Provide geospatial and thematic data.
7. Translate data collection to geographic information systems product development.

## Entrance Requirements

While this degree has no formal entrance requirements, individual courses may have prerequisites which must be met before enrollment.

## Additional Costs (Beyond Standard Tuition/Fees and Textbooks)

### Material Costs

AV 272 Unmanned Aerial Systems (UAS) Operations and AV 273 Unmanned Aerial Sys Ops Maint have \$750 fees to cover equipment costs.

## Course Requirements

Course	Title	Credits
<b>Core Courses</b>		
AV 104	Introduction to Aircraft Systems	4
AV 108	Aviation Meteorology	5
AV 110 or AV 115	Private Pilot - Airplane Private Pilot-Helicopter	5
AV 150	Aerodynamics	4

AV 246	Aviation Safety	4
AV 271	Introduction to Unmanned Aerial Systems	4
AV 272	Unmanned Aerial Systems (UAS) Operations	5
AV 273	Unmanned Aerial Sys Ops Maint	5
CIS 140	A+ Essentials I	4
CIS 145	A+ Essentials II	4
GEOG 101	Introduction to Geospatial Science & GIS	4
GEOG 211	Cartography	4
GEOG 265	Geographic Information Systems	4
GEOG 266	ArcGIS	4
GEOG 267	Geodatabase Design	4
GEOG 273	Spatial Data Collection	4
GEOG 275	GIS Capstone	4
GEOG 285	Data Conversion and Documentation	4
GEOG 286	Remote Sensing	4
GEOG 287	Spatial Analysis	4

### Other Required Courses

BA 285	Business Human Relations	3-4
	or COMM 218Z Interpersonal Communication	
CIS 120	Computer Concepts (or Computer Competency Test)	0-4
MTH 102	Applied Technical Mathematics (or choose one course from the foundational requirements math list)	4
WR 121Z or BA 214	Composition I Business Communications	3-4

**Total Credits** **94-100**

## Performance Standards

- Academic Requirements:
  - Students must have a 2.0 cumulative GPA to earn a COCC certificate or degree.
  - All courses in the program must be completed with a grade of C or higher.

## Sample Plan

First Term		Credits
AV 271	Introduction to Unmanned Aerial Systems	4
CIS 120	Computer Concepts	0-4
GEOG 101	Introduction to Geospatial Science & GIS	4
GEOG 266	ArcGIS	4
<b>Credits</b>		<b>12-16</b>
Second Term		
AV 108	Aviation Meteorology	5
AV 272	Unmanned Aerial Systems (UAS) Operations	5
GEOG 265	Geographic Information Systems	4

GEOG 285	Data Conversion and Documentation	4
<b>Credits</b>		<b>18</b>
<b>Third Term</b>		
AV 273	Unmanned Aerial Sys Ops Maint	5
CIS 140	A+ Essentials I	4
CIS 145	A+ Essentials II	4
GEOG 286	Remote Sensing	4
<b>Credits</b>		<b>17</b>
<b>Fourth Term</b>		
AV 104	Introduction to Aircraft Systems	4
AV 246	Aviation Safety	4
MTH 102	Applied Technical Mathematics (or choose one course from the foundational requirements math list)	4
<b>Credits</b>		<b>12</b>
<b>Fifth Term</b>		
AV 150	Aerodynamics	4
GEOG 273	Spatial Data Collection	4
WR 121Z or BA 214	Composition I or Business Communications	3-4
<b>Credits</b>		<b>11-12</b>
<b>Sixth Term</b>		
BA 285 or COMM 218Z	Business Human Relations or Interpersonal Communication	3-4
GEOG 211	Cartography	4
GEOG 287	Spatial Analysis	4
<b>Credits</b>		<b>11-12</b>
<b>Seventh Term</b>		
AV 110 or AV 115	Private Pilot - Airplane or Private Pilot-Helicopter	5
GEOG 267	Geodatabase Design	4
GEOG 275	GIS Capstone	4
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>94-100</b>