

Aviation

Aviation Degrees and Certificates

Air Traffic Control Terminal, Associate in Applied Science

The Air Traffic Control Terminal, A.A.S. degree will prepare students for entry level employment as an Air Traffic Controller. The design of the program affords students the opportunity to learn the prerequisite concepts and techniques required to be a professional Air Traffic Controller. The program delivers both practical and conceptual knowledge through the use of course work and learning activities while incorporating hands-on learning and extensive use of simulation, reading, writing, problem-solving and listening exercises.

Applicants must be 26 years old or less (FAA age limit to be hired as an Air Traffic Controller is 31) and must complete Atlantic Cape's Air Traffic Control Program Application for Admission in addition to the College's Application for Admission. For other eligibility requirements, please see the Application.

Graduates of Atlantic Cape's Air Traffic Control Terminal program must take the Air Traffic Selection and Training (AT-SAT) Test. Opportunities to take the AT-SAT exam are made available either through occasional FAA-announced "Public Bid" test dates or through receiving a recommendation from a College Training Initiative (CTI) certified institution. CTI recommendations are issued at the discretion of the authorized institution and are not guaranteed. This examination will determine aptitude and skills necessary to become an Air Traffic Controller. If hired by the FAA, students will be sent to the FAA Air Traffic Training Academy located at the Michael Monroney Aeronautical Center in Oklahoma City, OK, for initial qualification training as an Air Traffic Controller. After completion of this training, students will proceed to an assigned facility for more specific training. Completion of Atlantic Cape's ATCT program does not guarantee employment.

Atlantic Cape has signed transfer articulation agreements with Collegiate Training Initiative colleges that will allow graduates to transfer and obtain their CTI recommendation. Contact the division chair for an updated list of transfer agreements. Currently, Atlantic Cape students are eligible to apply for FAA "Public Bid" job announcements.

For additional program information, please contact department chair, Dr. Otto Hernandez, at (609) 343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Prepare for entry level employment as an Air Traffic Controller;
- Read and interpret ATC rules and regulations;
- Demonstrate control of aircraft in a simulated environment;
- Explain ATC rules and regulations;
- Solve ATC related problems.

(ATCT-Fall 2022)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
COMM120	Public Speaking	3

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3
ESCI100	Earth Science	4
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4

Social Science

Course #	Title	Credits
PSYC101	General Psychology	3

Program Courses

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
ATCT120	Aviation Weather	3
ATCT170	ATC Regulations	4
ATCT220	Control Tower Operations I	6
ATCT225	Terminal Radar I	4
ATCT280	Control Tower Operations II	6
ATCT285	Terminal Radar II	4
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
HPED150	Concepts of Physical Fitness	1
	Choose: AVIT101-Experiential Flight or AVIT103-Simulated Flight (1 credit)	1
GIST101	Introduction to Geographic Information Systems	4

*FAA age limit to be hired as an Air Traffic Controller is 31.

Total Credits	60
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Recommended Sequence of Courses

First Semester

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
ATCT120	Aviation Weather	3
ENGL101	Composition I	3
CISM125	Introduction to Computers	3
	Choose: AVIT101-Experiential Flight or AVIT103-Simulated Flight (1 credit)	1

Second Semester

Course #	Title	Credits
ATCT170	ATC Regulations	4
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
COMM120	Public Speaking	3
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4

Third Semester

Course #	Title	Credits
ATCT220	Control Tower Operations I	6
ATCT225	Terminal Radar I	4
GIST101	Introduction to Geographic Information Systems	4
PSYC101	General Psychology	3

Fourth Semester

Course #	Title	Credits
ATCT280	Control Tower Operations II	6
ATCT285	Terminal Radar II	4
ESCI100	Earth Science	4
HPED150	Concepts of Physical Fitness	1

Small Unmanned Aircraft Systems Field Technician, Associate in Applied Science

This program prepares students for a career as a small unmanned aircraft systems technician. Upon successful completion of the program students will demonstrate basic proficiency in the area of small UAS operations, general maintenance and repair, the use of a small UAS for the collection of and pre- and post-processing of aerial images and videos, and geospatial data collection. Students are required to sit for, and pass a federal aviation administration aeronautical knowledge examination. Passing the examination leads to the earning of The Federal Aviation Administration's Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating. The RPC grants the holder the rights and privileges to safely operate for commercial purposes a less than 55 lbs. drone in the National Airspace System. This program requires off campus field trips and fieldwork. Students are required to develop a portfolio containing examples of completed projects and selected examples of coursework.

For additional information, please contact faculty advisor, Anthony Esposito at (609) 625-1111 ext. 2032 or aesposit@atlanticcape.edu, or department chair, Dr. Otto Hernandez, at (609) 343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Earn a Federal Aviation Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating;
- Safely execute the rights and privileges of a remote pilot in command of a less than 55 pound small unmanned aircraft system;
- Safely maintain and repair a small unmanned aircraft system;
- Perform safety inspections and explain the benefits of recordkeeping;
- Effectively support the collection of various types of data and process that data into actionable intelligence.

(SUAS-Fall 2022)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL230	Technical Writing	3

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3

Social Science or Humanities

Course #	Title	Credits
	General Education Humanities or Social Science course (3 credits)	3

General Education Electives

Choose 8 credits of General Education courses

(Students are strongly encouraged to meet with their faculty advisor before making a choice.)

Course #	Title	Credits
	General Education Course (4 Credits)	4
	General Education Course (4 Credits)	4

Program Courses

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT185	Remote Sensing Using Unmanned Aircraft Systems	4
AVIT225	Mobilizing a Drone-Powered Economy	3
AVIT245	Professional sUAS Operations	3
AVIT250	sUAS Maintenance & Repair	4
TVRF/AVIT263	Aerial Video Production	1
AVIT290	UAS Capstone Project	1
CISM143	Introduction to Project Management	3
CISM280	Capstone Portfolio	1
ENGR125	Introduction to Electronics	4
CISM/ENVL122	Agricultural Technology	3
GIST101	Introduction to Geographic Information Systems	4

Program Electives

Course #	Title	Credits
	Choose three credits from the following course alphas: ACCT, AVIT, BUSN, CISM, OSTM, TCOM or TVRF	3
	Total Credits	60

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT245	Professional sUAS Operations	3
CISM125	Introduction to Computers	3
ENGL101	Composition I	3

Second Semester

Course #	Title	Credits
AVIT185	Remote Sensing Using Unmanned Aircraft Systems	4
GIST101	Introduction to Geographic Information Systems	4
	General Education Humanities or Social Science course (3 credits)	3
ENGL230	Technical Writing	3

Third Semester

Course #	Title	Credits
AVIT225	Mobilizing a Drone-Powered Economy	3
CISM143	Introduction to Project Management	3
ENGR125	Introduction to Electronics	4
CISM/ENVL122	Agricultural Technology	3
	General Education Course (4 Credits)	4

Fourth Semester

Course #	Title	Credits
AVIT250	sUAS Maintenance & Repair	4
TVRF/AVIT263	Aerial Video Production	1
AVIT290	UAS Capstone Project	1
CISM280	Capstone Portfolio	1
	Choose three credits from the following course alphas: ACCT, AVIT, BUSN, CISM, OSTM, TCOM or TVRF	3
	General Education Course (4 Credits)	4

Aviation Studies, Associate in Science

The Aviation Studies, A.S. degree is focused on providing students with the first two years of a baccalaureate degree in areas of study such as airport management, aviation business administration, professional pilot, air traffic control and air transportation management. The program is designed with a substantial prescription of both general education electives and program courses so students may tailor their coursework to meet their transfer goals.

Students should identify the institution to which they plan to transfer and, through academic advisement, complete courses at Atlantic Cape that will not only transfer to a baccalaureate degree granting institution, but also count as an equivalent course at the receiving institution. Atlantic Cape has arranged transfer articulation agreements with several colleges.

Contact the department chair for a list of transfer agreements. It is strongly recommended that students pursuing this degree regularly meet with their faculty advisor.

For additional program information, please contact department chair, Dr. Otto Hernandez, at (609) 343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Complete the first two years of study towards a baccalaureate degree in aviation studies;
- Communicate technical concepts;
- Apply quantitative knowledge and skills;
- Apply scientific knowledge and reasoning;
- Demonstrate competence in information literacy;
- Analyze situations from the humanistic and historical perspective;
- Identify human factors impacting our world;
- Demonstrate basic aeronautical knowledge;
- Identify the impacts of weather on aviation;
- Identify key components of the National Airspace System.

(AVIT-Fall 2022)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL102	Composition II	3

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3
	General Education Mathematics Course (4 credits)	4
	General Education Science Course (4 credits)	4

Social Science

Course #	Title	Credits
	General Education Social Science Course (3 credits)	3

Humanities

Course #	Title	Credits
	General Education Humanities Course (3 credits)	3

General Education Elective

(Students are strongly encouraged to meet with their faculty advisor before making a choice.)

Course #	Title	Credits
	General Education Humanities Course (3 credits)	3
	General Education Course (3 credits)	3
	General Education Course (3 credits)	3

Program Requirements

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
ATCT120	Aviation Weather	3
AVIT110	Aeronautical Knowledge	3
AVIT115	National Airspace System	3
AVIT127	Introduction to Airport Management	3
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
	Choose: AVIT101-Experiential Flight or AVIT103-Simulated Flight (1 credit)	1

Program Electives

Choose eight credits from the following course alphas:

ACCT, ATCT, AVIT, BUSN, CISM, GIST, ECON, MATH or TCOM

(Students are strongly encouraged to meet with their faculty advisor before making a choice.)

Course #	Title	Credits
	Choose a course from the following alphas: ACCT, ATCT, AVIT, BUSN, CISM, GIST, ECON, MATH or TCOM (4 credits)	4
	Choose a course from the following alphas: ACCT, ATCT, AVIT, BUSN, CISM, GIST, ECON, MATH or TCOM (4 credits)	4
	Total Credits	60

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT115	National Airspace System	3
CISM125	Introduction to Computers	3
ENGL101	Composition I	3
	Choose: AVIT101-Experiential Flight or AVIT103-Simulated Flight (1 credit)	1
	General Education Mathematics Course (4 credits)	4

Second Semester

Course #	Title	Credits
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
ENGL102	Composition II	3
	Choose a course from the following alphas: ACCT, ATCT, AVIT, BUSN, CISM, GIST, ECON, MATH or TCOM (4 credits)	4
	General Education Humanities Course (3 credits)	3
	General Education Social Science Course (3 credits)	3

Third Semester

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
	Choose a course from the following alphas: ACCT, ATCT, AVIT, BUSN, CISM, GIST, ECON, MATH or TCOM (4 credits)	4
	General Education Science Course (4 credits)	4
	General Education Humanities Course (3 credits)	3

Fourth Semester

Course #	Title	Credits
AVIT110	Aeronautical Knowledge	3
AVIT127	Introduction to Airport Management	3
	General Education Course (3 credits)	3
	General Education Course (3 credits)	3

Professional Helicopter Pilot-Option, Associate in Science

The Professional Helicopter Pilot Option in Aviation Studies is designed to provide students with the necessary aeronautical skills and knowledge to earn a commercial pilot certificate with a rotorcraft category and a helicopter class rating. Emphasis is placed on aeronautical decision-making, flight safety, and effective flying techniques. Upon successful completion of this program, students will be prepared to gain entry-level employment as a commercial helicopter pilot and/or continue their education by transferring to a baccalaureate program.

Students are required to have proof of U.S. citizenship and a valid second class medical certificate to enroll in this program. A second application is required for admission to this program.

It is strongly recommended that students pursuing this degree regularly meet with their faculty advisor.

For additional program information, please contact aviation operations chair, Timothy Cwik, at (609) 343-4992 or tcwik@atlanticcape.edu.

Upon completion of this program students will be able to:

- Make aeronautical decisions;
- Obtain the FAA Private Pilot Certificate;
- Obtain the FAA Instrument Rating;
- Obtain the FAA Commercial Pilot Certificate;
- Obtain the FAA Flight Instructor Certificate.

(HPLT-Fall 2022)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL102	Composition II	3

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3
	General Education Mathematics Course (4 credits)	4
	General Education Science Course (4 credits)	4

Social Science

Course #	Title	Credits
	General Education Social Science Course (3 credits)	3

Humanities

Course #	Title	Credits
	General Education Humanities Course (3 credits)	3

General Education Electives

Course #	Title	Credits
	General Education Humanities or Social Science course (3 credits)	3
	General Education Course (3 credits)	3
	General Education Course (3 credits)	3

Program Courses

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
ATCT120	Aviation Weather	3
AVIT110	Aeronautical Knowledge	3
AVIT145	Private Pilot Helicopter	4
AVIT255	Instrument Pilot Helicopter	4
AVIT265	Commercial Pilot Helicopter	5
AVIT276	Fundamentals of Flight Instruction	3
AVIT282	Helicopter Flight Instructor	2
	Total Credits	60

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT110	Aeronautical Knowledge	3
AVIT145	Private Pilot Helicopter	4
CISM125	Introduction to Computers	3
ENGL101	Composition I	3

Second Semester

Course #	Title	Credits
AVIT255	Instrument Pilot Helicopter	4
ENGL102	Composition II	3
	General Education Humanities Course (3 credits)	3
	General Education Social Science Course (3 credits)	3

Third Semester

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
AVIT265	Commercial Pilot Helicopter	5
	General Education Science Course (4 credits)	4
	General Education Course (3 credits)	3

Fourth Semester

Course #	Title	Credits
AVIT276	Fundamentals of Flight Instruction	3
AVIT282	Helicopter Flight Instructor	2
	General Education Humanities or Social Science course (3 credits)	3
	General Education Mathematics Course (4 credits)	4
	General Education Course (3 credits)	3

Professional Pilot-Option, Associate in Science

The Professional Pilot Option in Aviation Studies prepares students for a Federal Aviation Administration license as a commercial pilot with an instrument rating, and for possible transfer to a baccalaureate program. Before enrolling in this program, students must meet the physical and legal requirements for becoming a commercial pilot. Students are required to have proof of U.S. citizenship and have a valid second class medical certificate to enroll in this program. A second application is required for admission to this program.

It is strongly recommended that students pursuing this degree regularly meet with their faculty advisor.

For additional program information, please contact aviation operations chair, Timothy Cwik, at (609) 343-4992 or tcwik@atlanticcape.edu.

Upon completion of this program students will be able to:

- Make aeronautical decisions;
- Obtain the FAA Private Pilot Certificate;
- Obtain the FAA Instrument Rating;
- Obtain the FAA Commercial Pilot Certificate;
- Obtain the FAA Multi-Engine Rating;
- Obtain the FAA Flight Instructor Certificate.

(PILT-Fall 2022)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL102	Composition II	3

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3
	General Education Mathematics Course (4 credits)	4
	General Education Science Course (4 credits)	4

Social Science

Course #	Title	Credits
	General Education Social Science Course (3 credits)	3

Humanities

Course #	Title	Credits
	General Education Humanities Course (3 credits)	3

General Education Electives

Course #	Title	Credits
	General Education Humanities or Social Science course (3 credits)	3
	General Education Course (3 credits)	3
	General Education Course (3 credits)	3

Program Courses

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
ATCT120	Aviation Weather	3
AVIT110	Aeronautical Knowledge	3
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT210	Private Pilot Airplane	4
AVIT240	Instrument Pilot Airplane	2
AVIT280	Commercial Pilot Airplane	4
AVIT276	Fundamentals of Flight Instruction	3
AVIT278	Airplane Flight Instructor	1
AVIT286	Multi-Engine Pilot	1
	Total Credits	60

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT110	Aeronautical Knowledge	3
AVIT210	Private Pilot Airplane	4
CISM125	Introduction to Computers	3
ENGL101	Composition I	3

Second Semester

Course #	Title	Credits
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT240	Instrument Pilot Airplane	2
ENGL102	Composition II	3
	General Education Humanities Course (3 credits)	3
	General Education Social Science Course (3 credits)	3

Third Semester

Course #	Title	Credits
ATCT101	Introduction to Air Traffic Control	4
AVIT280	Commercial Pilot Airplane	4
	General Education Science Course (4 credits)	4
	General Education Humanities or Social Science course (3 credits)	3

Fourth Semester

Course #	Title	Credits
AVIT276	Fundamentals of Flight Instruction	3
AVIT278	Airplane Flight Instructor	1
AVIT286	Multi-Engine Pilot	1
	General Education Mathematics Course (4 credits)	4
	General Education Course (3 credits)	3
	General Education Course (3 credits)	3

Flight Instructor, Certificate

The Flight Instructor Certificate provides students with an opportunity to obtain the knowledge, expertise, and aeronautical proficiency necessary to meet the requirements for a commercial rating with an airplane or a helicopter category and a single-engine land class rating, and a flight instructor certificate with an airplane category rating and single-engine class rating.

Students are required to have proof of U.S. citizenship or TSA approval and have a valid second-class medical certificate to enroll in this program. A second application is required for admission to this program.

Students already holding the required pilot's license and ratings may convert their experience through the college's prior learning assessment process.

For further information, contact aviation operations chair, Timothy Cwik, at (609) 343-4992 or tcwik@atlanticcape.edu.

(FLTI–Fall 2022)

Upon completion of this program students will be able to:

- Obtain the FAA Private Pilot Certificate;
- Obtain the FAA Instrument Rating;
- Obtain the FAA Commercial Pilot Certificate;
- Obtain the FAA Flight Instructor Certificate.

General Education Courses

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3

Social Science

Course #	Title	Credits
PSYC101	General Psychology	3

Program Requirements - 12 credits

Note: Students should meet with faculty advisor before selecting a Free Elective course.

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT276	Fundamentals of Flight Instruction	3
EDUC/PSYC213	Educational Psychology	3
	Free Elective(s): Choose any college-level course(s) (3 Credits)	3

Program Electives

Choose a Concentration: Airplane or Helicopter

Airplane Concentration

Course #	Title	Credits
AVIT110	Aeronautical Knowledge	3
AVIT210	Private Pilot Airplane	4
AVIT240	Instrument Pilot Airplane	2
AVIT278	Airplane Flight Instructor	1
AVIT280	Commercial Pilot Airplane	4

Helicopter Concentration

Course #	Title	Credits
AVIT255	Instrument Pilot Helicopter	4
AVIT265	Commercial Pilot Helicopter	5
AVIT282	Helicopter Flight Instructor	2
Total Credits		29-32

Small Unmanned Aircraft Systems Field Technician, Certificate

This program prepares students for a career as a small-unmanned aircraft systems technician. Upon successful completion of the program students will demonstrate basic proficiency in the area of sUAS operations, general maintenance and repair, the use of a sUAS for the collection of and pre and post-processing of aerial images and videos, and geospatial data collection.

Students are required to sit for, and pass a Federal Aviation Administration knowledge exam. Passing this examination leads to the earning of the Federal Aviation Administration's Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating. The RPC allows for the safe commercial operation of less than 55 lbs. drones in the National Airspace System. This program requires off campus field trips and fieldwork. Students can apply all of the required coursework toward the Small Unmanned Aircraft Systems Field Technician Associate in Applied Science Degree.

For additional information, please contact faculty advisor, Anthony Esposito at (609) 625-1111 ext. 2032 or aesposit@atlanticcape.edu, or contact department chair, Dr. Otto Hernandez, at (609) 343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Earn a Federal Aviation Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating;
- Safely execute the rights and privileges of a remote pilot in command of a less than 55 pound small unmanned aircraft system;
- Safely maintain and repair a small unmanned aircraft system;
- Perform safety inspections and explain the benefits of recordkeeping;
- Collect and process a variety of aerial data into meaningful information.

(UAST-Fall 2022)

General Education Courses

Communication

Course #	Title	Credits
ENGL101	Composition I	3

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3

Program Courses

Course #	Title	Credits
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT185	Remote Sensing Using Unmanned Aircraft Systems	4
AVIT245	Professional sUAS Operations	3
AVIT250	sUAS Maintenance & Repair	4
TVRF/AVIT263	Aerial Video Production	1
AVIT290	UAS Capstone Project	1
ATCT120	Aviation Weather	3
ENGR125	Introduction to Electronics	4
GIST101	Introduction to Geographic Information Systems	4
Total Credits		33

Commerical Pilot, Professional Series

This series prepares students for a Federal Aviation Administration license as a commercial pilot with an instrument rating. Before enrolling in this program, students must meet the physical and legal requirements for becoming a commercial pilot. Students are required to have proof of U.S. citizenship or TSA approval and have a valid second-class medical certificate to enroll in this series. A second application is required for admission.

For additional program information, please contact aviation operations chair, Timothy Cwik, at (609)343-4992 or tcwik@atlanticcape.edu.

Upon completion of this program students will be able to:

- Earn a Federal Aviation Administration Instrument Pilot Rating;
- Earn a Federal Aviation Administration Commercial Pilot's Certificate;
- Safely execute the rights and privileges of a commercial pilot in command (PIC).

(ZPIL)

Courses

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT107	Aeronautical Knowledge Seminar	1
AVIT210	Private Pilot Airplane	4
AVIT235	Instrument Knowledge Seminar	1
AVIT240	Instrument Pilot Airplane	2
AVIT275	Commercial Pilot Knowledge Seminar	1
AVIT280	Commercial Pilot Airplane	4
Total Credits		16

Small Unmanned Aircraft Systems Repair Specialist, Professional Series

This program prepares students to operate, maintain, and repair small unmanned aircraft systems. Upon successful completion of the program students will earn the Federal Aviation Administration Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating. This FAA certificate allows the holder to act as the pilot in command of a less than 55-pound commercial drone. The program also prepares students to troubleshoot mechanical and technical problems, make repairs and modifications, and conduct small unmanned aircraft safety inspections.

For additional information, please contact faculty advisor, James Taggart at (609) 343-4950 or jtaggart@atlanticcape.edu, or department chair, Dr. Otto Hernandez, at (609) 343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Operate a small unmanned aircraft system safely in the National Airspace System;
- Maintain and repair a small unmanned aircraft system;
- Develop maintenance schedules and safety inspection checklists.

(ZUAR)

Courses

Course #	Title	Credits
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT250	sUAS Maintenance & Repair	4
AVIT290	UAS Capstone Project	1
CISM125	Introduction to Computers	3
ENGR125	Introduction to Electronics	4
Total Credits		15

Small Unmanned Aircraft Systems Specialist, Professional Series

This program is designed to provide students with the theoretical knowledge and practical skill necessary to safely operate a small-unmanned aircraft system (sUAS) within the National Airspace System. The coursework focuses on safe sUAS operation for aerial video production, the collection and processing of aerial and geospatial data as well as piloting requirements under Code of Federal Regulations Title 14 Part 107. As part of this professional series certificate of achievement, students will prepare to earn their Federal Aviation Administration Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating. Some of the coursework may require fieldwork and flight laboratories.

For additional information, please contact faculty advisor, Anthony Esposito at (609) 625-1111 ext. 2032 or aesposit@atlanticcape.edu, or department chair, Dr. Otto Hernandez, at (609) 343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Safely operate a small unmanned aircraft system safely in the National Airspace System;
- Utilize a small unmanned aircraft system to collect imagery and geospatial data;
- Process aerial imagery and geospatial data using industry standard software applications.

(ZUAS)

Courses

Course #	Title	Credits
ATCT120	Aviation Weather	3
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT185	Remote Sensing Using Unmanned Aircraft Systems	4
AVIT245	Professional sUAS Operations	3
GIST101	Introduction to Geographic Information Systems	4
Choose: AVIT/TVRF263 (1 cr.) or CISM/ENVL122 (3 cr.)		1-3
Total Credits		18-20

Aviation Courses

AVIT/TVRF263 : Aerial Video Production

This course is designed for the remote aircraft pilot interested in learning to use a small-unmanned aircraft for professional photography and videography. Topics include but are not limited to visual sensors, flying techniques, pre and post processing, and flight planning. Students will create a product portfolio containing samples of their work. This course requires 15 hours of fieldwork.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 1

Prerequisites

FAA Remote Pilot Certificate with a Small UAS Rating.

AVIT100 : Introduction to Aviation

This course surveys the major topics in the aviation industry. This course covers aviation history in the United States and internationally, regulations, air space, fundamentals of flight, propulsion, navigation, air traffic control, and unmanned aircraft systems. Emphasis is placed on career paths in aviation. The course covers corporate, airline and airport operations.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

AVIT101 : Experiential Flight

Designed for students interested in experiencing limited flight training. The course provides 5 hours of introductory ground training and 10 hours of flight training. Students will work with an FAA certified flight instructor and will be introduced to basic aeronautical skills and knowledge. This course is not intended for students wishing to earn a pilot's license. The course is for students who simply want to gain some experience flying a single engine aircraft.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 1

Prerequisites

U.S. Citizenship

AVIT103 : Simulated Flight

Designed for students interested in experiencing flight training in a flight simulator. The course provides introductory ground and flight training. Students will work with an FAA certified flight instructor and will be introduced to basic aeronautical skills and knowledge. This course is not intended for students wishing to earn a pilot's license. The course is for students who simply want to gain some experience flight training in a flight simulator.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 1

AVIT107 : Aeronautical Knowledge Seminar

This seminar is designed to cover the aeronautical knowledge necessary to successfully complete the content knowledge requirement for obtaining a private pilot airplane license. This course may also be taken to reinforce a student's prior aeronautical knowledge.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 0

AVIT110 : Aeronautical Knowledge

Introduces students to the basic knowledge necessary to function safely and competently in the flight environment. Topics include but are not limited to airplane components, aerodynamic principles of flight, aircraft instruments and systems, performance prediction and weight/balance control. This course also introduces students to the flight environment including airports, airspace, aeronautical charts, ATC services, navigation aids, VFR and IFR operations, approach and departure procedures, FAA regulations and the Airman's Informational Manual. Additionally, the course covers basic weather theory, weather forecasts and reports, pilotage, dead reckoning, communication procedures, flight planning, decision making, human factors and aviation physiology.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

Prerequisites

ENGL080 and MATH074 or MATH099 or Placement test scores.

AVIT115 : National Airspace System

Provides foundational and technical knowledge of the National Airspace System. Describes NAS features and components, associated systems, and next generation air transport concepts and plans. Topics include but are not limited to, The Federal Aviation Administration, NAS and air traffic control, NAS systems, instrument navigation procedures, next generation air transportation system, navigating the NAS, commercial space transportation, and unmanned aircraft systems. Course may include field trips to the FAA's William J. Hughes Technical Center.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

AVIT125 : Special Topics in Aviation Studies

This course is designed to introduce students to particular topics related to or influencing aviation. Topics are selected based on their significance and or level of impact. Topics may include, emerging technologies, regulations, aviation history, advances in aviation or general aviation topics. See current course schedule for specific course topic information.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

AVIT127 : Introduction to Airport Management

Provides students with an introduction to the major elements in the process of airport planning and management. Topics include but are not limited to airport regulations, financing, site selection and environment impact, airport capacity and delays, terminal planning and design, ground access planning, daily operations and security, and airline and public relations.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

Prerequisites

ENGL080 and MATH074 with grades of C or better or Placement Test scores.

AVIT135 : Introduction to Unmanned Aircraft Systems

Designed to introduce students to unmanned aircraft systems. Topics include but are not limited to system elements, regulations, operations, practical uses of UAS, safety, the history and future of UAS, sensors and payloads and human factors.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

AVIT140 : Small Unmanned Aircraft Systems Operation-Multi-Rotor

This course is designed to prepare students to operate a small-unmanned aircraft system (sUAS). Topics include but are not limited to the Code of Federal Regulations 14 part 107, airspace classifications, aeronautical chart reading, emergency procedures, conditions affecting flight, and aeronautical decision-making. This course requires a flight laboratory where students will operate a sUAS. The coursework also prepares students for the Federal Aviation Administration's Unmanned Aircraft Systems Knowledge Test. Upon successful completion of the test, students may be eligible to seek their FAA Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating.

Credits 3

Lecture Hours 2

Lab/Clinical/Field Study Hours 3

AVIT145 : Private Pilot Helicopter

Includes actual flying experience with an FAA approved flight instructor. Students will receive 56 hours of flight instruction including dual and solo, 14 hours of pre/post flight briefing, and 45 hours of ground instruction. Successful completion will result in earning a Private Pilot license. This course facilitates students in developing the knowledge and skills needed to safely exercise the privileges and obligations of a Private Pilot acting as Pilot-in-Command of a helicopter. This is a Pass/Fail course.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 5

Prerequisites

Proof of US citizenship or TSA approval, valid second-class medical certificate to enroll in this course.

AVIT150 : Flight Attendant Essentials

This course provides an introduction to flight attendant duties. Topics include but are not limited to flight safety, federal aviation regulations, passenger cabin procedures, human factors, passenger care and management, conflict resolution, aircraft systems, emergency and boarding procedures, in-flight service procedures, safety briefing announcements, customer service skills and airline terminology.

Credits 4

Lecture Hours 4

Lab/Clinical/Field Study Hours 0

Prerequisites

HOSP100

AVIT185 : Remote Sensing Using Unmanned Aircraft Systems

Introduces students to the use of unmanned aircraft systems for remote sensing and acquiring information about the Earth's surface without coming in contact with it. Topics include but are not limited to an introduction to remote sensing, classification of unmanned aircraft systems, attitude estimation, lateral channel fractional order flight controller design, remote sensing using a single UAS, using multiple UAS's, and diffusion control using mobile sensors and actuator networks.

Credits 4

Lecture Hours 4

Lab/Clinical/Field Study Hours 0

AVIT200 : Aeronautical Skills

This course is designed to extend a student's flight training. The course provides an opportunity for students to focus on their individualized needs as a student pilot attempting to gain the skills and knowledge necessary to safely exercise the privileges and obligations of a licensed pilot. Students are presented with a combination of lecture, simulation, and practical flight experience designed to meet their needs. This course affords students an additional 15 hours of flight training with a certified flight instructor.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 1

Prerequisites

Permission of Instructor

AVIT210 : Private Pilot Airplane

Includes actual flying experience with an FAA approved flight instructor. Students will receive 56.5 hours of flight instruction including dual and solo, 14 hours of pre/post flight briefing, and 45 hours of ground training. Successful completion will result in earning a Private Pilot Certificate. This course facilitates students in developing the knowledge and skills needed to safely exercise the privileges and obligations of a Private Pilot acting as Pilot-in-Command of a single-engine airplane. This is a Pass/Fail course.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 3

Prerequisites

AVIT110 (may be taken concurrently). Proof of US citizenship or TSA approval, valid second-class medical certificate to enroll in this course.

AVIT220 : Instrument Pilot Knowledge

Focuses on ground training to prepare students for the Federal Aviation Administration's instrument rating knowledge examination. Topics include but are not limited to Federal Aviation Regulations, attitude flight, navigation aids, instrument flight rules meteorology, instrument flight procedures and operations, and phraseology.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

Prerequisites

AVIT210 or AVIT145 (may be taken concurrently)

AVIT225 : Mobilizing a Drone-Powered Economy

This course examines the impact of drones on our economy and society while reviewing the necessary steps for starting a drone business. Topics include but are not limited to the analysis between advances in drone technology and the creation of wealth from new business opportunities that result from technical innovations, legal and liability issues, regulatory considerations, ethical and societal implications, operational considerations, and technical advances and limitations.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

Prerequisites

AVIT140 (may be taken concurrently)

AVIT235 : Instrument Knowledge Seminar

This seminar is designed to cover the instrument knowledge necessary to successfully complete the content knowledge requirement for obtaining an instrument rating for an airplane pilot's license. This course may also be taken to reinforce a student's prior aeronautical knowledge.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 0

Prerequisites

Valid Pilot's license

AVIT240 : Instrument Pilot Airplane

Includes actual flying experience with a FAA approved flight instructor. Students will receive 40 hours of flight instruction, 15 hours of pre/post flight briefing, and 40 hours of ground instruction. The course is designed for students to gain the necessary aeronautical skill and knowledge to meet the requirements of an Instrument Rating with an Airplane category and a Single-Engine Land class rating. This is a Pass/Fail course.

Credits 2

Lecture Hours 2

Lab/Clinical/Field Study Hours 2

Prerequisites

Proof of US citizenship or TSA approval, valid second-class medical certificate, valid private pilot certificate to enroll in this course.

AVIT245 : Professional sUAS Operations

Provides students with the opportunity to design and develop a standard procedural framework for the safe and professional operation of small unmanned aircraft systems (drones). Topics include but are not limited to designing and developing a safety management system, developing a framework for a maintenance and inspection program.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

Prerequisites

AVIT140 (may be taken concurrently)

AVIT250 : sUAS Maintenance & Repair

Students learn the necessary knowledge and mechanical dexterity for the troubleshooting and repair of a variety of technical, electronic, and mechanical problems on a less than 55 pound unmanned aircraft system. Lecture and laboratory topics include sUAS maintenance, identification of system components, payloads, aircraft modification, part installation, hand-held ground control station maintenance, battery maintenance, radio frequency, basic soldering, safety inspections, test flights, software updates, and recordkeeping and checklist writing.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 3

Prerequisites

ENGR125 (may be taken concurrently)

AVIT255 : Instrument Pilot Helicopter

Will familiarize the student with helicopter systems, operation, power plant, instrumentation, and performance, loading and flight characteristics used in instrument flying. Includes 58 hours of flight instruction, 54 hours of ground instruction, and 17 hours of pre- and post-flight briefing with an FAA certified flight instructor. This is a Pass/Fail course.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 5

Prerequisites

Proof of US citizenship or TSA approval, valid second-class medical certificate, valid private helicopter pilot certificate to enroll in this course.

AVIT260 : Commercial Pilot Knowledge

Focuses on ground training to prepare students for the Federal Aviation Administration's commercial pilot airplane or helicopter knowledge examination. Topics include but are not limited to Federal Aviation Regulations, aerodynamics, weight and balance, aircraft systems, flight planning, and aeronautical decision-making.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

Prerequisites

AVIT240 or AVIT255 (may be taken concurrently)

AVIT265 : Commercial Pilot Helicopter

This course covers the aeronautical skills and knowledge necessary to meet the requirements for a commercial pilot certificate with a rotorcraft category and helicopter class rating. Includes 115 hours of flight instruction, 45 hours of ground instruction, and 30 hours of pre- and post-flight briefing. This is a Pass/Fail course.

Credits 5

Lecture Hours 2

Lab/Clinical/Field Study Hours 9

Prerequisites

Proof of US citizenship or TSA approval, valid second-class medical certificate, valid private helicopter pilot certificate with instrument rating to enroll in this course.

AVIT275 : Commercial Pilot Knowledge Seminar

This seminar is designed to cover the aeronautical knowledge necessary to successfully complete the content knowledge portion of obtaining a commercial airplane pilot's license. This course may also be taken to reinforce a student's prior knowledge.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 0

Prerequisites

Valid Pilot's License

AVIT276 : Fundamentals of Flight Instruction

This course is designed to introduce the fundamentals of flight instruction. Student will learn about the teaching and learning process, instructional design and delivery, techniques for assessing learning, and methodologies for safely instructing students to fly.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

Prerequisites

Valid commercial pilot's license

AVIT278 : Airplane Flight Instructor

This course provides students with the skill, knowledge, and aeronautical experience necessary to meet the requirements for a flight instructor certificate with an airplane category rating and single-engine class rating. The course includes 25 hours of flight instruction, 8 hours of pre/post flight briefing, and 15 hours of ground instruction. Students have the opportunity to practice instruction and the analysis of maneuvers. This is a Pass/Fail course.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 1

Prerequisites

Proof of US citizenship or TSA approval, valid second-class medical certificate, valid commercial pilot certificate with an instrument rating to enroll in this course.

AVIT280 : Commercial Pilot Airplane

Includes 120 hours of flight instruction, 13 hours of pre/post flight briefing, and 35 hours of ground instruction with an FAA approved flight instructor. The course is designed for students to gain the necessary aeronautical skill and knowledge to meet the requirements of a Commercial Rating with an Airplane category and a Single-Engine Land class rating. This is a Pass/Fail course.

Credits 4

Lecture Hours 2

Lab/Clinical/Field Study Hours 8

Prerequisites

Proof of US citizenship or TSA approval, and a valid second-class medical certificate, valid private pilot certificate to enroll in this course.

AVIT282 : Helicopter Flight Instructor

This course is designed to prepare students to become a certified flight instructor. Upon successful completion, students will demonstrate the necessary aeronautical skill to obtain a certificated flight instructor certificate with a rotorcraft category and helicopter class rating. The course includes 25 hours of flight instruction, 40 hours of ground instruction, and 7 hours of pre- and post-flight briefing, so students can practice instruction and the analysis of maneuvers. This is a Pass/Fail course.

Credits 2

Lecture Hours 2

Lab/Clinical/Field Study Hours 2

Prerequisites

Proof of US citizenship or TSA approval, valid second-class medical certificate, valid commercial helicopter pilot certificate with an instrument rating to enroll in this course.

AVIT286 : Multi-Engine Pilot

This course is designed to provide students with the aeronautical skill and knowledge necessary to safely operate a multi-engine fixed wing aircraft under normal and emergency conditions. Emphasis will be placed on systems operations, use of flight instruments, flight maneuvers, and instrument navigation systems on typical multi-engine aircraft. This course includes 16 hours of ground instruction, 4 hours of pre/post flight briefing, and 15 hours of flight instruction. This is a Pass/Fail course.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 1

Prerequisites

Proof of US citizenship or TSA approval, valid second-class medical certificate to enroll in this course.

AVIT288 : Commercial Helicopter Add-On

This course is designed to provide students with the aeronautical skill and knowledge necessary to earn a commercial pilot helicopter add-on to an existing commercial airplane pilot certificate. This course includes 40 hours of dual flight instruction and 35 hours of solo flying for a total of 75 hours of flight time. The course also includes 39.5 hours of ground instruction, and 30.25 preflight and post briefing and debriefing. The FAA required minimum flight hours in this course are 75 hours, however, the actual flight hours may vary based on student proficiency. This is a Pass/Fail course.

Credits 4

Lecture Hours 2

Lab/Clinical/Field Study Hours 7

Prerequisites

AVIT280 or valid commercial pilot certificate with an instrument rating, Proof of US citizenship or TSA approval, valid second-class medical certificate, to enroll in this course.

AVIT290 : UAS Capstone Project

Provides students with an opportunity to utilize a small-unmanned aircraft system for the collection, analysis, and post processing of data into information. Students may propose a project to be completed during the semester or choose from one of the college's ongoing projects. Projects may focus on geospatial data collection, orthorectified mapping, radiometric analysis, agricultural data analysis, structural inspections, volumetric measurement, or aerial videography/photography. Students will develop a project proposal, image acquisition plan, flight plan, and a presentation. Students are required to meet in the classroom and in the field with the instructor.

Credits 1

Lecture Hours 1

Lab/Clinical/Field Study Hours 1

Prerequisite Courses

AVIT140: Small Unmanned Aircraft Systems Operation-Multi-Rotor