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# Bachelor of Science in Aviation Technology

The Bachelor of Science in Aviation Technology (BSAT) prepares individuals for professional positions within the aviation industry. Related career opportunities are found with airlines, airports, general aviation, government organizations, education and the aerospace industry.

Within the degree there are three emphasis areas: aviation management, professional piloting, and aeronautical studies. Each emphasis has discrete program description and outcomes. The specific interests and career goals of each student determine the emphasis area to pursue. The degree includes university General Education Requirements (GERs), a common set of core courses and courses relative to each individual emphasis.

## **Aviation Management Emphasis**

The BSAT with the aviation management emphasis is designed to prepare graduates for management positions in all aspects of the aviation industry. The BSAT provides students not only with the organizational, human relations, and managerial skills required in aviation management, but also with the appropriate technical background.

## **Professional Piloting Emphasis**

Professional pilots need knowledge of aerodynamics, aircraft engine and system operation, aircraft operating limitations and performance, weather and atmospheric processes, as well as navigation and communication methods. This degree program prepares graduates for careers in professional flying and management. The special considerations and academic requirements contained in the Associate of Applied Science in Professional Piloting (https://catalog.uaa.alaska.edu/ undergraduateprograms/ctc/aas-professionalpiloting/) also apply to this emphasis area. The FAA has authorized UAA to certify its professional piloting graduates as eligible for an Airline Transport Pilot Certificate with reduced aeronautical experience.

## **Aeronautical Studies**

The BSAT with the aeronautical studies emphasis is designed to help students with some college education complete a bachelor degree and transition into the aviation industry. This degree is designed to have maximum flexibility in course electives.

## **Admission Requirements**

- Complete the Admission Requirements for Baccalaureate Degrees. (https://catalog.uaa.alaska.edu/academicpoliciesprocesses/ admissions/undergraduate/)
- Complete any additional admission requirements for the emphasis areas of aviation management and professional piloting described below.

• Complete any certification requirements established by applicable government agencies of applicable emphasis.

## Advising

It is strongly recommended that all students meet with an Aviation Technology Division (ATD) academic advisor each semester to review their academic progress and plan future courses. This is especially true with piloting students, as a number of their courses have Federal Aviation Administration (FAA) requirements as well.

## **Special Considerations**

Once enrolled in any flight training course (courses where the student is receiving flight training) at UAA, students are required to complete the course requirements within 12 months from the date of registration. Failure to do so will be considered unsatisfactory progress and will result in a failing (F) grade within that registered flight course. If a student receives a failing grade in a flight training course, the course may be repeated.

## **Graduation Requirements**

- Complete the General University Requirements for Baccalaureate Degrees (https://catalog.uaa.alaska.edu/undergraduateprograms/ baccalaureaterequirements/).
- Complete the General Education Requirements for Baccalaureate Degrees (https://catalog.uaa.alaska.edu/undergraduateprograms/ baccalaureaterequirements/gers/).
- Complete requirements from one of the following emphases.
- Complete the following major requirements with a minimum grade of C in all aviation technology courses:

Code	Title	Credits
Core Courses		
AMT A171	Basic Aerodynamics	2
ATA A102	Introduction to Aviation Technology	3
ATA A133	Aviation Law and Regulations	3
ATA A134	Principles of Aviation Administration	3
ATA A233	Aviation Safety	3
ATA A331	Human Factors in Aviation	3
ATA A337	Airline Operations	3
ATA A425	Civil Aviation Security	3
ATA A492	Air Transportation System Seminar	3
ATC A143	ATC Regulations	3
or ATC A147	Air Traffic Communications	
ATP A100	Private Pilot Ground School	3
ATP A235	Elements of Weather	3
ECON A102	Principles of Macroeconomics	3
PHIL A101	Introduction to Logic	3
or PHIL A201	Introduction to Philosophy	
or PHIL A301	Ethics	
or PHIL A305	Professional Ethics	

Total		48
WRTG A212	Writing and the Professions	3
PHYS A123L	College Physics I Laboratory	1
PHYS A123	College Physics I	3

Select one of the following emphasis areas and complete the listed required courses.

#### **Aviation Management Emphasis**

The following applies to those students desiring to pursue an aviation management emphasis:

1. Completion of prerequisite for or test placement into MATH A105 or higher and WRTG A111 or higher. For testing schedule, contact the Testing Center at (907) 786-4500.

Code	Title	Credits
ACCT A201	Principles of Financial Accounting	3
ACCT A202	Principles of Managerial Accounting	3
ATA A335	Airport Operations	3
ATA A336	Air Service Operations	3
or ATC A440	Facility Operation and Administration	L
BA A241	Business Law I	3
BA A300	Organizational Theory and Behavior	3
BA A361	Human Resource Management	3
BA A388	Globalization and Business Environment	3
BA A461	Negotiation and Conflict Management	3
ECON A101	Principles of Microeconomics	3
STAT A200	Elementary Statistics	3
or any class for which	STAT A200 is a prerequisite.	
Choose a minimum of 1	8 credits of advisor-approved	18

electives, 12 of which must be upper-division. The following are recommended elective support courses:

Total		51
PSY A380	Psychology of Stress and Coping	
PER elective *		
PER A100	Fitness for Life *	
BA A460	Marketing Management	
	Relationship Management	
BA A381	Consumer Behavior and	
BA A376	Management Information Systems	
BA A347	International Marketing	
BA A280	Managerial Communications	
ATC A325	Tools for Weather Briefing	
	Technology	
ATA A490	Advanced Topics in Aviation	
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\* Maximum of 2 PER elective credits allowed.

#### **Professional Piloting Emphasis**

The following applies to those students desiring to pursue a professional piloting emphasis:

- Flight training costs are not included in university tuition and fees. Students must meet with the aviation academic advisor to obtain department approval to register for all flight courses. Flight training costs are based on hourly rates established for each aircraft type flown. Students will be provided with current hourly flight costs and program cost estimates when they meet with the department's academic advisor.
- 2. Students must pass an Federal Aviation Administration (FAA) Class II medical examination before beginning any flight training.
- 3. U.S. citizens must present verification of U.S. citizenship before beginning any flight or airplane simulator training. The following three methods are acceptable: an unexpired U.S. passport, an original or raised seal official copy of birth certificate, or an original or raised seal official copy of Certificate of Naturalization. Non-U.S. citizens must register and receive approval from the Transportation Security Agency before beginning any flight or simulator training. Please contact the ATD Office for information.
- 4. Once formally admitted to the Bachelor of Science in Aviation Technology or registered for aviation classes at UAA, all subsequent required flight training must be completed in residence at UAA. Enrolled students who receive flight training outside UAA under specific curricula will not receive credit for the corresponding UAA courses.
- 5. All students are required to complete a minimum of the FAA Instrument Airplane Pilot rating, the FAA Commercial Airplane Single-engine Land Pilot certificate, and the FAA Multi-engine Land Rating while in residence at UAA.
- 6. Military pilots may petition to have appropriate curriculum requirements awarded based on FAA pilot certificates held on a case-by-case basis.
- 7. Students in the professional piloting emphasis are expected to have an additional focus of study outside of aviation. This focus will include at least three courses in the outside emphasis beyond the General Education Requirements (GERs). A minor is encouraged but not required.
- Completion of prerequisite for or test placement into MATH A105 or higher and WRTG A111 or higher. For testing schedule, contact Testing Center at (907) 786-4500.

Code	Title	Credits
ATA A415	Crew Resource Management	3
ATC A325	Tools for Weather Briefing	3
ATP A101	Pre-Professional Flying $^*$	2
ATP A116	Instrument Ground School	3
ATP A126	Instrument Flying *	2
ATP A200	Commercial Ground School	3
ATP A218	Commercial Flying I $^*$	1.5

ATP A219	Commercial Flying II *	1.5
ATP A220	Commercial Flying III <sup>*</sup>	2
ATP A305	Airplane Multiengine Land Rating *	2
ATP A320	Flight Dynamics	3
ATP A332	Transport Aircraft Systems	3
MATH A152	Trigonometry	3
or any class for wh	nich MATH A152 is a prerequisite	
Choose a minimum c	of 19 credits of advisor-approved	19

electives, 10 of which must be upper-division. The

following	are	recommended	elective	support	courses:
ionowing	arc	recommended	ciccuve	support	courses.

Т	otal		51
	PSY A380	Psychology of Stress and Coping	
	PER elective (must be	e combined with PER A100)	
	PER A100	Fitness for Life	
	ATP A405	Additional CFI Rating *	
	ATP A301	CFI Flying *	
	ATP A300	CFI Ground School	
	ATP A104	Flying Alaska Bush	
		Technology	
	ATA A490	Advanced Topics in Aviation	
	ATA A336	Air Service Operations	
	ATA A335	Airport Operations	
	ATA A134	Principles of Aviation Administration	

\* All flying courses require special documentation and department approval before registration.

#### **Aeronautical Studies Emphasis**

The following applies to those students desiring to pursue an aeronautical studies emphasis:

This curriculum is designed as a flexible option for those with previous college experience and looking to move into the aviation industry.

Code	Title	Credits
ATP A433	Aerospace Physiology	3
ATA A431	Aircraft Accident Investigation	3
BA A166	Entrepreneurship and Small Business Management	3
ENGL A312	Technical Writing and Design	3
MATH A152	Trigonometry	3
or STAT A200	Elementary Statistics	
or any class for whi prerequisite	ch MATH A152 or STAT A200 is a	
36 credits of advisor-a	pproved electives	36
Total		51

A minimum of 120 credits is required for the degree, 39 of which must be upper-division. All elective courses must be approved by the academic advisor.

## **Program Student Learning Outcomes**

#### **Aviation Management Emphasis**

At the completion of this program, students will be able to:

- Demonstrate technical knowledge of aircraft operating limitations and performance.
- Demonstrate knowledge of aviation law and regulations, and of the legal issues affecting the aviation industry.
- Demonstrate knowledge of the issues affecting aviation safety and safety management.
- Demonstrate knowledge of basic business management skills and supervisory techniques.
- Demonstrate a broad knowledge of the aviation industry.
- Demonstrate a broad knowledge of aviation management functions and techniques.

#### **Professional Piloting Emphasis**

At the completion of this program, students will be able to:

- Demonstrate proficiency in instrument pilot, commercial pilot knowledge, and flight skills.
- Demonstrate knowledge of aviation law and regulations, and the legal issues affecting the aviation industry.
- Demonstrate knowledge of the issues affecting aviation safety and safety management.
- Demonstrate knowledge of aviation weather and of aviation weather services.
- Demonstrate a broad knowledge of the aviation industry.

#### **Aeronautical Studies Emphasis**

At the completion of this program, students will be able to:

- Demonstrate technical knowledge of aircraft operating limitations and performance.
- Demonstrate knowledge of aviation law and regulations, and the legal issues affecting the aviation industry.
- Demonstrate knowledge of the issues affecting aviation safety and safety management.
- Demonstrate a broad knowledge of the aviation industry.

#### Sample Plan

The academic plan below is one pathway through the degree/certificate. It includes all requirements, taking into account recommendations from program faculty. Each student's plan may vary according to their initial course placement (https://catalog.uaa.alaska.edu/ academicpoliciesprocesses/academicstandardsregulations/ courseplacement/), intended course load, additional majors and/or minors, and their placement into required prerequisite courses. Any change in the plan below can have an unforeseen impact on the rest of

the plan. Therefore, it is very important to meet with your academic advisor to verify your personal academic plan.

## Please review the following terms, definitions, and resources associated with the sample academic plan below.

- Each course in the far left column links to a pop-up bubble with a course description, prerequisite requirements, and associations with university requirements. For example, if a course fulfills a general education requirement, you will see that in the pop-up bubble.
- GER: indicates a General Education Requirement (https://catalog.uaa.alaska.edu/undergraduateprograms/ baccalaureaterequirements/gers/). GERs that also count toward degree/certificate requirements appear as a specific course in the plan. For these courses, "GER" is not indicated explicitly in the table, but if you click on the course, you will see the course's GER status in the pop-up bubble.
- **Program Elective**: indicates a specific course selection determined by program faculty to fulfill a degree/certificate requirement. Students should seek assistance from their academic advisor.
- **Elective**: indicates an open selection of 100-400 level university courses to fulfill elective credits needed to meet the minimum total credits toward the degree/certificate.
- **Upper Division Program Elective**: indicates a specific 300-400 level course selection determined by the program faculty to fulfill a degree/certificate requirement. Students should seek assistance from their academic advisor.
- **Upper Division Elective**: indicates an open selection of 300-400 level courses to fulfill elective credits needed to meet the minimum total credits toward the degree/certificate. These courses must be upper division in order to meet General University Requirements for the particular degree/certificate type.

## Sample Plan - Aeronautical Studies Emphasis

#### First Year

Fall		Credits
ATA A102	Introduction to Aviation Technology	3
ATA A134	Principles of Aviation Administration	3
ATP A100	Private Pilot Ground School	3
MATH A152	Trigonometry	3
WRTG A111	Writing Across Contexts	3
	Credits	15
Spring		
ATA A133	Aviation Law and Regulations	3
ATA A233	Aviation Safety	3
ATC A143	ATC Regulations	3
or ATC A147	or Air Traffic Communications	
ATP A235	Elements of Weather	3
WRTG A212	Writing and the Professions	3
	Credits	15

#### Second Year

#### Fall

1 411		
ATA A331	Human Factors in Aviation	3
PHIL A301	Ethics	3
or PHIL A305	or Professional Ethics	
PHYS A123	College Physics I	4
& A123L	and College Physics I Laboratory	
GER Oral Comm	unication Skills	3
Program Elective	<u> </u>	3
	Credits	16
Spring		
ATP A433	Aerospace Physiology	3
ECON A102	Principles of Macroeconomics	3
ENGL A312	Technical Writing and Design	3
GER Fine Arts		3
Program Elective	•	3
	Credits	15
Third Year		
Fall		
AMT A171	Basic Aerodynamics	2
ATA A337	Airline Operations	3
GER Humanities		3
GER Natural Sci	ences	3
Upper Division P	Program Elective	3
	Credits	14
Spring		
BA A166	Entrepreneurship and Small Business Management	3
GER Social Scien	nces	3
Program Elective		3
Program Elective		3
Upper Division F	Program Elective	3
	Credits	15
Fourth Year		
Fall		
ATA A425	Civil Aviation Security	3
ATA A431	Aircraft Accident Investigation	3
Program Elective	2	3
Upper Division F	Program Elective	3
Upper Division F	Program Elective	3
	Credits	15
Spring		
ATA A492	Air Transportation System Seminar	3
ATA A492 GER Alaska Nati	Air Transportation System Seminar ive-Themed	3
ATA A492 GER Alaska Nati Program Elective	Air Transportation System Seminar ive-Themed	3 3 3
ATA A492 GER Alaska Nati Program Elective Upper Division F	Air Transportation System Seminar ive-Themed Program Elective	3 3 3 3 3

Upper Division Program Elective	
Credits	15
Total Credits	120

# Sample Plan - Aviation Management Emphasis

### First Year Fall

Fall		Credits
ATA A102	Introduction to Aviation Technology	3
ATA A134	Principles of Aviation Administration	3
ATP A100	Private Pilot Ground School	3
STAT A200	Elementary Statistics	3
WRTG A111	Writing Across Contexts	3
	Credits	15
Spring		
ATA A133	Aviation Law and Regulations	3
ATA A233	Aviation Safety	3
ATC A143	ATC Regulations	3
or ATC A147	or Air Traffic Communications	
ATP A235	Elements of Weather	3
WRTG A212	Writing and the Professions	3
	Credits	15
Second Year		
Fall		
ATA A331	Human Factors in Aviation	3
BA A300	Organizational Theory and Behavior	3
PHIL A301 or PHIL A305	Ethics or Professional Ethics	3
PHYS A123	College Physics I	4
& A123L	and College Physics I Laboratory	
GER Oral Comm	unication Skills	3
	Credits	16
Spring		
ACCT A201	Principles of Financial Accounting	3
BA A361	Human Resource Management	3
ECON A102	Principles of Macroeconomics	3
GER Fine Arts		3
GER Humanities		3
	Credits	15
Third Year		
Fall		
ACCT A202	Principles of Managerial Accounting	3
AMT A171	Basic Aerodynamics	2
ATA A336	Air Service Operations	3
or ATC A440	or Facility Operation and Administration	
ATA A337	Airline Operations	3
GER Natural Scie	ences	3
	Credits	14

Spring		
ATA A335	Airport Operations	3
BA A241	Business Law I	3
BA A388	Globalization and Business Environment	3
BA A461	Negotiation and Conflict Management	3
ECON A101	Principles of Microeconomics	3
	Credits	15
Fourth Year		
Fall		
ATA A425	Civil Aviation Security	3
GER Alaska Native-Themed		3
Upper Division Program Elective		3
Upper Division Program Elective		3
Upper Division Program Elective		3
	Credits	15
Spring		
ATA A492	Air Transportation System Seminar	3
Program Elective		3
Program Electiv	ve	3
Program Elective		3
Upper Division Program Elective		3
	Credits	15
	Total Credits	120

## Sample Plan - Professional Piloting Emphasis

First Year		
Fall		Credits
ATA A102	Introduction to Aviation Technology	3
ATA A134	Principles of Aviation Administration	3
ATP A100	Private Pilot Ground School	3
MATH A152	Trigonometry	3
WRTG A111	Writing Across Contexts	3
	Credits	15
Spring		
ATA A133	Aviation Law and Regulations	3
ATA A233	Aviation Safety	3
ATP A101	Pre-Professional Flying	2
PHIL A101 or PHIL A201 or PHIL A301 or PHIL A305	Introduction to Logic or Introduction to Philosophy or Ethics or Professional Ethics	3
WRTG A212	Writing and the Professions	3
GER Oral Comm	unication Skills	3
	Credits	17

#### Second Year

Fall		
ATP A116	Instrument Ground School	3
ATP A126	Instrument Flying	2
ATP A235	Elements of Weather	3
PHYS A123	College Physics I	4
& A123L	and College Physics I Laboratory	
GER Humanities		3
	Credits	15
Spring		
AMT A171	Basic Aerodynamics	2
ATC A325	Tools for Weather Briefing	3
ATP A200	Commercial Ground School	3
ATP A218	Commercial Flying I	1.5
GER Natural Scie	ences	3
GER Fine Arts		3
	Credits	15.5
Summer		
ATP A219	Commercial Flying II <sup>1</sup>	1.5
ATP A220	Commercial Flying III <sup>1</sup>	2
	Credits	3.5
Third Year		
Fall		
ATA A331	Human Factors in Aviation	3
АТА А337	Airline Operations	3
ATC A143	ATC Regulations	3
or ATC A147	or Air Traffic Communications	
ATP A300	CFI Ground School	3
ATP A301	CFI Flying	2
	Credits	14
Spring		
ATP A305	Airplane Multiengine Land Rating	2
ATP A320	Flight Dynamics	3
ATP A332	Transport Aircraft Systems	3
ECON A102	Principles of Macroeconomics	3
GER Social Scien	nces	3
	Credits	14
Fourth Year		
Fall		
ATA A425	Civil Aviation Security	3
ATC A251	Flight Dispatcher Overview	3
GER Alaska Nati	ve-Themed	3
Program Elective	2	3
	Credits	12
Spring		12
ATA A415	Crew Resource Management	3
ATA A492	Air Transportation System Seminar	3
ATC A351	Flight Dispatcher Operations	3
	i igni Disputener Operations	5

Total Credits	120-121
Credits	14-15
Program Elective <sup>2</sup>	2-3
Program Elective <sup>2</sup>	3

<sup>1</sup> ATP A219 and ATP A220 are open-entry/open-exit and may be completed in the same semester. Students must complete ATP A219 to enroll in ATP A220. <sup>2</sup> Upper Division if needed.