

B.S. in Air Traffic Management

The Air Traffic Management (ATM) program is a degree designed for students whose goal is to become an air traffic controller or seek employment in a related industry. In addition to ATM courses, the curriculum provides skills in mathematics, physics, communications, safety, meteorology, and aeronautics. The academic courses are designed to provide exposure to procedures and operations consistent with those found in Federal Aviation Administration (FAA) air traffic control facilities.

Students will:

- Conduct operations in the en route air traffic control environment related to non-radar separation and procedures.
- Conduct operations using high-fidelity simulation in the en route air traffic control environment related to radar separation and procedures.
- Recall information on the basics of air traffic control, including its history, mission, and duty priority.
- Conduct operations using high-fidelity simulation in the airport terminal environment related to VFR Control Tower operations.
- Conduct operations using high-fidelity simulation in a low volume terminal radar environment related to radar separation and procedures.
- Conduct operations using high-fidelity simulation in a high volume, complex terminal radar environment related to radar separation and procedures.
- Apply accepted practices in air traffic management to analyze a cumulative knowledge of collaborative air traffic management, traffic flow management, and advanced air traffic management procedures.

Degree Requirements

The Bachelor of Science degree in Air Traffic Management requires successful completion of a minimum of 122 semester hours, normally completed in eight semesters. A minimum of 40 semester hours must be upper-level.

Students must select and complete one minor field of study, as approved by the Applied Aviation Sciences Department. Total credits within the minor will vary depending on which minor is chosen. Students typically select a minor that will enhance their aviation career.

Students should be aware that several courses in each academic year might have prerequisites and/or corequisites. Please check the course descriptions in this catalog before registering for classes to ensure requisite sequencing.

Program Requirements

General Education

Embry-Riddle degree programs require students to complete a minimum of 36 hours of General Education coursework. For a full description of Embry-Riddle General Education guidelines, please see the General Education section of this catalog.

Students may choose other classes outside of their requirements, but doing so can result in the student having to complete more than the degree's 120 credit hours. This will result in additional **time and cost** to the student.

Communication Theory and Skills	9
Computer Science/Information Technology	3
Mathematics	6
Physical and Life Sciences (Natural Sciences)	6
Humanities and Social Sciences	12

3 hours of Lower-Level Humanities
3 hours of Lower-Level Social Science
3 hours of Lower-Level or Upper-Level Humanities or Social Science
3 hours of Upper-Level Humanities or Social Science

Total Credits **36**

Air Traffic Management Core (107 Credits)

The following course of study outlines the quickest and most cost-efficient route for students to earn their B.S. in Air Traffic Management. Students are encouraged to follow the course of study to ensure they complete all program required courses and their prerequisites within four years.

Courses in the core with a # will satisfy general education requirements.

Accounting, Business Administration, or Economics Upper-Level Elective	3
AS 121 Private Pilot Operations	5
AS 125 Private and UAS Pilot Operations	3
AS 207 Introduction to Aviation Research Methods	3
AS 221 Instrument Pilot Operations	3
AS 221L Instrument Pilot Operations Laboratory	1
AS 309 Aerodynamics	3
AS 310 Aircraft Performance	3
AS 350 Domestic and International Navigation	3
AS 359 Aviation Stress Management	3
AS 405 Aviation Law	3
AS 410 Airline Dispatch Operations	3
AS 480 Applied Aviation Research Methods	3
AT 202 Introduction to Air Traffic Management	3
AT 305 Introduction to Terminal Radar Operations	3
AT 315 Introduction to Air Traffic Control Tower	3
AT 401 Advanced Terminal Radar Operations	3
AT 405 En route Radar Operations	3
AT 415 Advanced Air Traffic Control Tower **	3
BA 201 Principles of Management	3
COM 122 English Composition #	3
General Education - Communication Theory and Skills Elective #	6
General Education - Computer Science/Information Technology Elective #	3
General Education - Humanities Lower-Level Elective #	3
General Education - Social Science Lower-Level Elective #	3
General Education - Humanities or Social Science Lower-Level Elective #	3
General Education - Humanities or Social Science Upper-Level Elective #	3
General Education - Natural Science Elective #	3
GEO 210 Introduction to Geographic Information Systems	3
MA 111 Pre-Calculus for Aviation #	3
MA 112 Applied Calculus for Aviation #	3
SF 210 Introduction to Aerospace Safety	3
WX 201 Survey of Meteorology #	3
WX 203L Survey of Meteorology Laboratory #	1
WX 301 Aviation Weather	3
UNIV 101 College Success	1

Total Credits **107**

Minor Requirement (15 Credits)

Minor * 15

Total Credits	122
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* Students must complete at least one minor.

** Offered in Spring Only

General Education Course

Air traffic controllers are required to possess a current FAA 2nd Class or higher medical certificate to receive and exercise the privileges of their FAA Air Traffic Controller certificates. Students should verify their eligibility status for this level medical certificate with an FAA designated medical examiner prior to enrolling in this degree program. The medical certificate is not required for ATM courses or degree enrollment.

Prospective air traffic controllers must be able to complete their university education and have entered the FAA Air Traffic Control Academy prior to reaching their 31st birthday.

FAA air traffic controllers must be U.S. citizens.

All Army ROTC students are required to complete SS 321 - U.S. Military History 1900-Present (3 credits) in order to commission.

Air Traffic Management - General

Freshman Year

Fall		Credits
AS 121	Private Pilot Operations	5
COM 122	English Composition	3
	Computer Science/Information Technology Elective	3
MA 111	Pre-Calculus for Aviation	3
UNIV 101	College Success	1
Credits Subtotal		15.0

Spring

AS 125	Private and UAS Pilot Operations	3
AT 202	Introduction to Air Traffic Management	3
GEO 210	Introduction to Geographic Information Systems	3
MA 112	Applied Calculus for Aviation	3
	Natural Science Elective	3
Credits Subtotal		15.0

Sophomore Year

Fall		
AS 221	Instrument Pilot Operations	3
AS 221L	Instrument Pilot Operations Laboratory	1
AT 305	Introduction to Terminal Radar Operations	3
BA 201	Principles of Management	3
	Communications Elective	3
	Social Science Lower-Level Elective	3
Credits Subtotal		16.0

Spring

AS 309	Aerodynamics	3
AT 315	Introduction to Air Traffic Control Tower	3
	Communications Elective	3
SF 210	Introduction to Aerospace Safety	3
WX 201	Survey of Meteorology	3
WX 203L	Survey of Meteorology Laboratory	1
Credits Subtotal		16.0

Junior Year

Fall		
AS 207	Introduction to Aviation Research Methods	3
AS 310	Aircraft Performance	3
AS 350	Domestic and International Navigation	3
AT 401	Advanced Terminal Radar Operations	3

	Minor/Open Elective	3
Credits Subtotal		15.0

Spring

	Accounting, Business Administration, or Economics Upper-Level Elective	3
AT 405	En route Radar Operations	3
	Humanities or Social Science Upper-Level Elective	3
	Minor/Open Elective	3
WX 301	Aviation Weather	3
Credits Subtotal		15.0

Senior Year

Fall

AT 415	Advanced Air Traffic Control Tower	3
AS 359	Aviation Stress Management	3
AS 410	Airline Dispatch Operations	3
	Minor/Open Electives	6
Credits Subtotal		15.0

Spring

AS 405	Aviation Law	3
AS 480	Applied Aviation Research Methods	3
	Humanities Lower-Level Elective	3
	Humanities or Social Science Lower-Level Elective	3
	Minor/Open Elective	3
Credits Subtotal		15.0
Credits Total:		122.0