

# B.S. in Aeronautical Science

## Degree Requirements

The Bachelor of Science degree in Aeronautical Science may be attained in eight semesters. To earn the degree, successful completion of a minimum of 120 credit hours is required. The purpose of the Aeronautical Science degree program is to prepare the graduate for a productive career as a professional pilot and responsible citizenship in support of the aviation and aerospace industries. Upon completion of the curriculum, the student will possess an FAA Commercial Pilot Certificate (Professional Pilot Track) with multi-engine rating or FAA Commercial Pilot and Flight Instructor Certificate (Flight Education Pilot Track). Optional advanced flight training includes upset recovery training, certification as a flight instructor and instrument flight instructor, and training as a flight crew member in a jet transport aircraft.

Students pursuing the Aeronautical Science degree will choose either the Professional Pilot or Flight Education. All students must complete the general education courses, Professional Pilot core courses, and the courses required to complete one specialization to earn the Aeronautical Science degree.

Flight education is a continuous process that normally begins sometime during the student's first year of attendance and will progress until culminating in a multi-engine commercial certificate with an instrument rating. The curriculum is designed to allow students to meet core objectives in a reasonable amount of time.

Various factors influence student progress. These factors include student academic preparation, student availability, student determination and dedication, the availability of aircraft and instructor pilots, and the cooperation of the weather. Consequently, some students will finish before others. After completing the flight core curriculum, students may take an additional semester or more to acquire additional advanced certificates and ratings, including certified flight instructor airplane and instrument, and/or they may enroll in the Airline Flight Crew Techniques and Procedures or the Airline Dispatch Operations course.

After matriculation at Embry-Riddle Aeronautical University, all flight training for credit must be completed at Embry-Riddle. Only under extreme extenuating circumstances will ERAU students be allowed to complete any off-campus training for credit after matriculation. Students desiring to do so must obtain written approval in advance from the Flight Department Chair. The credit will be awarded as advanced standing, and the procedures for requesting credit when training is completed will be specified in the written approval (Off Campus Authorization Form).

Aeronautical Science students will be awarded credit for FAA certificates held prior to matriculation to Embry-Riddle and may be approved to complete partial training towards a certificate or rating if flight training from an appropriately rated instructor was logged prior to matriculation. If FAA certificates are held, this training must have occurred after the attainment of the most recent certificate for which credit is granted. Except as provided above, after a student matriculates, all flight training must be completed at Embry-Riddle. In all cases, students must satisfactorily complete at least one flight course on campus after advanced standing is awarded. See the Flight Department chair as appropriate concerning exact credit.

Enrollment in flight courses requires proof of U.S. citizenship or a Department of Justice background check for international students. Please see the Aviation Transportation and Security Act (ATSA) under the Admissions section of this catalog.

## 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 Elective	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 Social Science	
3 hours of Upper-Level Humanities or Social Science	
<b>Total Credits</b>	<b>36</b>

### Aeronautical Science Core (91 Credits)

The following course of study outlines the quickest and most cost-efficient route for students to earn their B.S. in Aeronautical Science. 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 your general education requirements.

Aeronautical Science, Air Traffic, Safety Science, or Weather Upper-Level Elective	3
AS 121 Private Pilot Operations	5
AS 221 Instrument Pilot Operations	3
AS 221L Instrument Pilot Operations Laboratory	1
AS 309 Aerodynamics	3
AS 310 Aircraft Performance	3
AS 311 Aircraft Engines - Turbine	3
AS 321 Commercial Pilot Operations	3
AS 321L Commercial Pilot Operations Laboratory	1
AS 350 Domestic and International Navigation	3
AS 356 Aircraft Systems and Components	3
AS 357 Flight Physiology	3
AS 380 Pilot Career Planning and Interviewing Techniques	1
AS 387 Crew Resource Management	3
AS 402 Airline Operations	3
or AS 410 Airline Dispatch Operations	
AS 405 Aviation Law	3
AS 408 Flight Safety	3
BA 201 Principles of Management	3
General Education - Communication Theory and Skills #	9
General Education - Computer Science/Information Technology Elective #	3
General Education - Humanities Lower-Level Elective #	3
General Education - Humanities or Social Science Upper-Level Elective #	3
General Education - Social Science Lower-Level Elective #	3
MA 111 Pre-Calculus for Aviation #	3
MA 112 Applied Calculus for Aviation #	3

## 2 B.S. in Aeronautical Science

PSY 101	Introduction to Psychology #	3
or PSY 222	Introduction to Industrial/Organizational Psychology	
PS 113	Introductory Physics I #	3
WX 201	Survey of Meteorology #	3
WX 203L	Survey of Meteorology Laboratory	1
WX 301	Aviation Weather	3
UNIV 101	College Success	1

### Capstone Requirements (9 Credits)

AS 411	Jet Transport Systems	3
AS 420	Flight Technique Analysis	3
AS 435	Electronic Flight Management Systems	3

### Choose one Flight Track - Professional Pilot or Flight Education

#### Professional Pilot Flight Track (20 Credits)

FA 121	Private Single Flight	1
FA 221	Instrument Single Flight	1
FA 321	Commercial Single Flight	1
FA 323	Commercial Multi Add On	1
Open Electives		16

#### Flight Education Track (20 Credits)

AS 421	Flight Instructor Ground Course	4
FA 121	Private Single Flight	1
FA 221	Instrument Single Flight	1
FA 321	Commercial Single Flight	1
FA 421	Flight Instructor Rating	1
Open Electives		12

<b>Total Credits</b>	<b>120</b>
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\* PSY 222 Fall Run Only

\*\* Offered in Spring Only

\*\*\*If a student possesses an FAA Commercial Certificate in a category or class other than Airplane, Single Engine Land, the student will be enrolled in FA 399 in lieu of FA 321.

# General Education Courses

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