

B.S. in Aeronautics

Whether you want to advance your current position and earnings potential, launch into an aviation career, or open your career up to new opportunities, the Bachelor of Science in Aeronautics (BSA) opens the door to new opportunities in the dynamic aviation/aerospace industry.

Aeronautics curriculum is closely mapped to the needs and demands of the aviation/aerospace industry and to general education guidelines. The BSA is a multidisciplinary program with courses of study in uncrewed systems, human factors, security, aviation safety, occupational safety and health, air traffic control, aircraft maintenance, and aeronautical science. Within that broad base, electives and minors allow you to tailor your degree to your particular interests and career goals.

It does not have to take long, either. You can receive transfer credit, advance standing, and Federal Aviation Administration (FAA) or military ratings and certifications, which may lead to receiving your degree in a shorter time.

Students are also eligible to engage in cooperative study/internships and may elect to seek out those enriching opportunities.

The Bachelor of Science in Aeronautics is accredited by the Aviation Accreditation Board International (AABI)

Graduates from the Worldwide BSA degree program are not eligible to apply for an airline transport pilot (ATP)-Restricted privileges certificate under Title 14 part 61.160.

Minor Courses of Study

One key and essential element of this degree is the ability to enhance and strengthen your academic program by adding any Minor Course of Study. Students may use courses from a minor and place them into Aviation Area of Concentration, Professional Development Electives and/or Open Electives (all as appropriate). Students are strongly encouraged to add a Minor to their degree. Students can enhance their aeronautics degree with a minor providing them with targeted sector expertise that they can broaden their career prospects and deepen their understanding of the industry.

Available Minors

Aviation Area of Concentration

The Aviation Area of Concentration is the degree area where credit for prior aviation learning is housed or where students can take aeronautical science courses. Many students bring in all or part of this credit based on prior aviation training or experience or add a Minor Course of Study. However, shortages in the minimum credit required can be made up by taking courses in the following aviation-related disciplines: Aeronautical Science, Aviation Maintenance, Aviation History, and aviation/aerospace related coursework in Safety, Security, Transportation, Engineering, and Uncrewed Systems.

Sources of prior learning credit include the following:

1. Transfer credit earned at accredited degree-granting colleges and universities.
2. The recommendations published by the American Council on Education for U.S. Military training and experience, as well as training conducted by other government agencies and private organizations.
3. Prior-learning credit established by the University for certain aviation licenses and ratings as they relate to this degree.

Duplicate Credit

Many Embry-Riddle courses are designed to teach the same skills and knowledge that Aeronautics students have acquired through experience and training. Students who complete courses in the same aviation specialty for which they were granted Aviation Area of Concentration

credit would be duplicating coverage of the same subject matter. Credit for completion of such courses will not be applied to degree requirements.

B.S. in Aeronautics students who wish to continue on to a master's degree may enroll in the BSA-MSA 4+1 program as outlined in this program.

Estimated Cost of Attendance

Students will:

- Show evidence of the basic concepts in national and international legislation and law as they pertain to the aviation, aerospace, and aeronautics industries.
- Show evidence of sound, ethical, management principles within standard aviation, aerospace, and aeronautics operations.
- Show evidence of basic concepts in aviation safety as they pertain to the aviation, aerospace, and aeronautics industry.
- Apply advanced concepts of aviation, aerospace and aeronautical science to solve problems in the aviation/aerospace industry.
- Communicate concepts in written, digital, and oral forms for technical and non-technical audiences.
- Synthesize and apply knowledge to define and solve problems in professional and personal environments.
- Analyze historical events, cultures, cultural artifacts, social issues, and philosophical concepts.
- Conduct meaningful research, gathering information from primary and secondary sources, and incorporating and documenting source material in their writing.
- Use digitally-enabled technology and mathematical analysis to interpret data, draw valid conclusions, and solve mathematical and economic problems.
- Work effectively with others on diverse teams to produce quality written documents, oral presentations, and/or meaningful projects, assist in organizing shared tasks, contribute actively to groups, and resolve conflicts.
- Select, use, manage, and evaluate technologies, understand their functions, constraints, trade-offs, and societal impact, and apply or integrate these technologies in solving practical problems.

DEGREE REQUIREMENTS

General Education

General Education

Embry-Riddle courses in the general education categories of Communication Theory and Skills, Humanities, Social Sciences, Physical and Life Science, Mathematics, and Computer Science may be chosen from as listed, assuming prerequisites are met. Courses from other institutions are acceptable if they fall into these broad categories and are at the level specified.

Communication Theory and Skills

Any Communication Theory and Skills above ENGL 106 9

Humanities

Lower-Level Humanities (Any Lower or Upper Level Humanities) 3

Upper-Level Humanities (Any Upper Level Humanities) 3

Social Sciences

Any Social Science 6

Physical and Life Science

Any Physical Science/Physics 6

Mathematics

Any College Algebra or Higher Math Series 6

Computer Science

Any Computer Science 3

Total Credits 36

Core/Major**Aviation Area of Concentration 18**

Make up shortages with non-duplicating courses from the following disciplines: Aeronautical Science, Aviation Maintenance, and related aviation/aerospace coursework in Transportation, Safety, Security, History, Engineering, and Uncrewed Systems.

Program Support 24

ASCI 202	Introduction to Aeronautical Science	3
ASCI 254	Aviation Legislation	3
ASCI 404	Applications in Aviation & Aerospace Law	3
STAT 211	Statistics with Aviation Applications	3
MGMT 201	Principles of Management	3
ACCT 210	Financial Accounting	3
MMIS 221	Introduction to Management Information Systems	3
UNSY 315	Uncrewed Aircraft Systems and Operations	3

Professional Development Core 12

ASCI 491	Operational Applications in Aeronautics	3
SCTY 400	Aviation Security	3
LGMT 420	Management of Production and Operations	3
BSAS 409	Aviation Safety	3

Electives**Professional Development Electives (Upper Level) 21**

Select from courses in available Minor Courses of Study or as accepted in these related disciplines, and Technology.

Open Electives (Upper or Lower Level) 9**Total Degree Requirements 120****Plan of Study (BSA)****Year One**

Term 1		Credits
	Communication Theory and Skills above ENGL 106	3
	College Algebra or Higher Math Series	3
	Credits Subtotal	6.0
Term 2		
	Communication Theory and Skills above ENGL 106	3
	College Algebra or Higher Math Series	3
	Credits Subtotal	6.0
Term 3		
	Humanities LL	3
	Physical Science/Physics	3
	Credits Subtotal	6.0
Term 4		
	Social Science	3
	Computer Science	3
	Credits Subtotal	6.0
Term 5		
	Communication Theory/Skills above ENGL 106	3
	ASCI 202 Introduction to Aeronautical Science	3
	Credits Subtotal	6.0
	Credits Total:	30.0

Year Two

Term 1		Credits
ASCI 254	Aviation Legislation	3
	Social Science	3
	Credits Subtotal	6.0
Term 2		
MGMT 201	Principles of Management	3
	Physical Science/Physics	3
	Credits Subtotal	6.0
Term 3		
ACCT 210	Financial Accounting	3
	Open Elective	3
	Credits Subtotal	6.0
Term 4		
MMIS 221	Introduction to Management Information Systems	3
	Open Elective	3
	Credits Subtotal	6.0
Term 5		
STAT 211	Statistics with Aviation Applications	3
	Open Elective	3
	Credits Subtotal	6.0
	Credits Total:	30.0

Year Three

Term 1		Credits
	Aviation Area of Concentration	3
UNSY 315	Uncrewed Aircraft Systems and Operations	3
	Credits Subtotal	6.0
Term 2		
	Aviation Area of Concentration	3
	Humanities UL	3
	Credits Subtotal	6.0
Term 3		
	Aviation Area of Concentration	3
LGMT 420	Management of Production and Operations	3
	Credits Subtotal	6.0
Term 4		
	Aviation Area of Concentration	3
SCTY 400	Aviation Security	3
	Credits Subtotal	6.0
Term 5		
	Aviation Area of Concentration	3
	Aviation Area of Concentration	3
	Credits Subtotal	6.0
	Credits Total:	30.0

Year Four

Term 1		Credits
BSAS 409	Aviation Safety	3
ASCI 404	Applications in Aviation & Aerospace Law	3
	Credits Subtotal	6.0
Term 2		
	Professional Development Elective	3
	Professional Development Elective	3
	Credits Subtotal	6.0
Term 3		

	Professional Development Elective	3
	Professional Development Elective	3
	Credits Subtotal	6.0
Term 4		
	Professional Development Elective	3
	Professional Development Elective	3
	Credits Subtotal	6.0
Term 5		
	Professional Development Elective	3
ASCI 491	Operational Applications in Aeronautics	3
	Credits Subtotal	6.0
	Credits Total:	30.0
Total Degree Requirements		120

BSA-MSA 4+1 Combined Pathway Program: Accelerated opportunity to earn an MSA

This program is for students who are committed to continuing their education through the Master's degree. This fast-paced program allows qualifying students the opportunity to complete both the Bachelor of Science in Aeronautics (BSA) and the Master of Science in Aeronautics (MSA) in five academic years.

Students who are accepted in the BSA-MSA 4+1 combined pathway program, will spend three academic years in undergraduate-level study and then, during their senior year, will be allowed to take up to three graduate-level courses from the MSA to replace an equal number of elective courses in the BSA degree. Before selecting the three courses to be taken, students must confer with an advisor to ensure that the courses selected are suitable (a grade of B or better must be achieved). Upon completion of the BSA requirements, students will be enrolled in the MSA and can complete their degree in one year. In any graduate course taken by an undergraduate student, a grade of B or better must be earned. If a grade of C or F is earned in any of the courses taken in lieu of the elective courses in the BSA degree, the student will be removed from the program, have credit awarded to the BSA degree only, and may continue to complete the BSA degree.

As a minimum, the applicant must have at least a 3.00 GPA. Students initiate program acceptance through their Academic Advisor or Campus Advisor; to help ensure program criteria are met. Student Advisor will complete the request for processing into the 4+1 program.