

B.S. in Aeronautical Science

Students can immerse themselves in academic and hands-on flight training at the Daytona Beach, Florida, campus, located adjacent to Daytona Beach International Airport, with an extensive aircraft fleet and aviation facilities, or the Prescott, Arizona, campus, with its beautiful mountain landscapes, fleet and aviation labs that support professional pilot education.

At the **Daytona Beach Campus**, the Bachelor of Science in Aeronautical Science blends pilot training with academic study. Housed in the Department of Aeronautical Science in the College of Aviation, students earn a high-quality, industry-known, four-year degree and their flight ratings simultaneously. Embry-Riddle's Daytona Beach Campus maintains a modern fleet of aircraft, including Cessna 172s and Diamond DA42s and a host of advanced flight simulation devices with advanced visual systems. This degree offers the option to participate in the Airbus Track. The program offers a multi-engine, instrument-rated, commercial pilot FAA-approved ATP-CTP. The Aeronautical Science program is accredited by the Aviation Accreditation Board International (AABI).

At the **Prescott Campus**, students attend classes in dynamic, aviation-related labs and facilities, housed in the Department of Aeronautical Science in the College of Aviation. Embry-Riddle has a fleet of Diamond DA42NGs and Cessna 172s located at Prescott Regional Airport, as well as a Super Decathlon for upset training.

FAA Exemption for the Restricted Airline Transport Pilot Certificate

Upon graduation, the Daytona Beach and Prescott Aeronautical Science degrees can qualify a graduate for the Restricted Airline Transport (R-ATP) certificate under FAR Part 61.160. Note that satisfying the AS degree requirements alone may not qualify the graduate for the R-ATP. This is a Federal Aviation Administration (FAA) exemption to the regulations and is subject to change. For detailed information, review the R-ATP FAQ's or contact the Aeronautical Science Program Coordinator or the Flight Department.

Program-Level Student Learning Outcomes

Students will:

- Apply knowledge of mathematics, science, and applied sciences at various levels of education.
- Possess an understanding of the national and international aviation environment.
- Possess knowledge and understanding of business sustainability as it applies to aviation industry issues.
- Communicate effectively using technical writing and verbal communication skills.
- Reflect knowledge of contemporary issues affecting the aviation industry through their actions and attitudes.
- Analyze and interpret data provided from various sources.
- Understand professional and ethical responsibility as it applies to the aviation industry.
- Recognize the need for, and be able to engage in, lifelong learning.
- Apply pertinent knowledge in identifying and solving problems.
- Use the techniques, skill, and modern technology necessary for professional practice.
- Make positive contributions and function on multi-disciplinary teams in a crew type environment.

Daytona Beach Program Requirements

General Education Requirements	37
Core Requirements	56
Program Support Courses	3
Flight Core	5
Electives	19
Total Credits	120

Program Details

The Bachelor of Science in Aeronautical Science program requires successful completion of a minimum of 120 credit hours. The program may be completed in eight semesters, or four years, assuming appropriate background and full-time enrollment. Students pursuing this undergraduate degree must earn a minimum cumulative grade point average (CGPA) of 2.00 for all work completed at the University. The courses necessary to earn this degree are listed below.

Students should be aware that many courses have prerequisites and/or corequisites. Students are responsible for ensuring that all prerequisite and degree requirements are met prior to enrollment in advanced coursework.

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) (<https://catalog.erau.edu/academic-policies-and-procedures/flight/atsa/>) under the Flight section of this catalog.

General Education Requirements

Communication	9
COMM 122 English Composition	
Humanities - Lower Level	3
Social Sciences - Lower Level	3
PSYC 101 Introduction to Psychology or PSYC 222 Introduction to Industrial/Organizational Psychology	
Humanities/Social Sciences - Lower or Upper Level	3
Humanities/Social Sciences - Upper Level	3
Computer Science/Information Technology	3
Mathematics	6
MATH 111 Pre-calculus for Aviation MATH 112 Applied Calculus for Aviation	
Physical/Life Sciences	7
PHYS 113 Introductory Physics I WEAX 201 Introduction to Meteorology PHYS 113L Introductory Physics I Laboratory or WEAX 20 Survey of Meteorology Laboratory	
Total Credits	37

Core Requirements

ASCI 101 Aeronautical Science Student Success Seminar or UNIV 101 College Success	1
ASCI 121 Private Pilot Operations *	6
ASCI 221 Instrument Pilot Operations *	3
ASCI 254 Aviation Legislation or ASCI 405 Aviation Law	3
ASCI 257 Flight Physiology	3
ASCI 309 Aerodynamics	3
ASCI 310 Aircraft Performance	3
ASCI 311 Aircraft Engines - Turbine	3
ASCI 321 Commercial Pilot Operations *	4
ASCI 350 Domestic and International Navigation	3

ASCI 356	Aircraft Systems and Components	3
ASCI 387	Crew Resource Management	3
ASCI 408	Flight Safety	3
ASCI 411	Jet Transport Systems	3
ASCI 420	Flight Technique Analysis	3
ASCI 435	Electronic Flight Management Systems	3
MGMT 201	Principles of Management	3
WEAX 301	Aviation Weather	3
Total Credits		56

* ASCI 121, ASCI 221, and ASCI 321 require a grade of C or higher.

Program Support Courses

ASCI 472	Operational Applications in Aeronautical Science	3
Total Credits		3

Flight Core

FACR 121A	Private Pilot Certification I	.1
FACR 121B	Private Pilot Certification II	.1
FACR 121C	Private Pilot Certification III	.1
FACR 121D	Private Pilot Certification IV	.1
FACR 121E	Private Pilot Certification V	.1
FACR 121F	Private Pilot Certification VI	.1
FACR 121G	Private Pilot Certification VII	.1
FACR 121H	Private Pilot Certification VIII	.8
FACR 221A	Instrument Rating I	.1
FACR 221B	Instrument Rating II	.1
FACR 221C	Instrument Rating III	.1
FACR 221D	Instrument Rating IV	.1
FACR 221E	Instrument Rating V	.1
FACR 221F	Instrument Rating VI	.5
FACR 321A	Commercial Pilot Certification I	.1
FACR 321B	Commercial Pilot Certification II	.1
FACR 321C	Commercial Pilot Certification III	.1
FACR 321D	Commercial Pilot Certification IV	.1
FACR 321E	Commercial Pilot Certification V	.1
FACR 321F	Commercial Pilot Certification VI	1
FACR 323A	Commercial Pilot Multi-Engine Rating I	.1
FACR 323B	Commercial Pilot Multi-Engine Rating II	.1
FACR 323C	Commercial Pilot Multi-Engine Rating III	.8
Total Credits		5

Electives

Open Electives - Upper Level	10
Open Electives	9
Total Credits	19

Suggested Plan of Study

Year One

Requirements	Credits
FACR 121A - Private Pilot Certification I	0.1
FACR 121B - Private Pilot Certification II	0.1
FACR 121C - Private Pilot Certification III	0.1
FACR 121D - Private Pilot Certification IV	0.1

ASCI 101 - Aeronautical Science	1
Student Success Seminar	
ASCI 121 - Private Pilot Operations	6
MATH 111 - Pre-calculus for Aviation	3
COMM 122 - English Composition	3
Semester Hours	13.4

Requirements	Credits
FACR 121E - Private Pilot Certification V	0.1
FACR 121F - Private Pilot Certification VI	0.1
FACR 121G - Private Pilot Certification VII	0.1
FACR 121H - Private Pilot Certification VIII	0.8
MATH 112 - Applied Calculus for Aviation	3
PSYC 101 - Introduction to Psychology	3
COMM 219 - Speech	3
Open Elective - Lower or Upper Level	3
Semester Hours	13.1

Total Credits

Total Hours for All Requirements: 26.5

Year Two

Requirements	Credits
FACR 221A - Instrument Rating I	0.1
FACR 221B - Instrument Rating II	0.1
FACR 221C - Instrument Rating III	0.1
FACR 221D - Instrument Rating IV	0.1
ASCI 221 - Instrument Pilot Operations	3
PHYS 113 - Introductory Physics I	3
PHYS 113L - Introductory Physics I Laboratory	1
WEAX 201 - Introduction to Meteorology	3
Computer Science/Information Technology	3
COMM 221 - Technical Communication	3
Semester Hours	16.4

Requirements	Credits
FACR 221E - Instrument Rating V	0.1
FACR 221F - Instrument Rating VI	0.5
ASCI 309 - Aerodynamics	3
ASCI 321 - Commercial Pilot Operations	4
ASCI 257 - Flight Physiology	3
Humanities - Lower Level	3
Semester Hours	13.6

Total Credits

Total Hours for All Requirements: 30

Year Three

Requirements	Credits
FACR 321A - Commercial Pilot Certification I	0.1
FACR 321B - Commercial Pilot Certification II	0.1
FACR 321C - Commercial Pilot Certification III	0.1
FACR 321D - Commercial Pilot Certification IV	0.1
ASCI 356 - Aircraft Systems and Components	3
WEAX 301 - Aviation Weather	3
ASCI 310 - Aircraft Performance	3
MGMT 201 - Principles of Management	3
Open Elective - Upper Level	3
Semester Hours	15.4

Requirements	Credits
FACR 321E - Commercial Pilot Certification V	0.1
FACR 321F - Commercial Pilot Certification VI	1
ASCI 411 - Jet Transport Systems	3
ASCI 311 - Aircraft Engines - Turbine	3
ASCI 387 - Crew Resource Management	3
ASCI 350 - Domestic and International Navigation	3
Open Elective - Lower or Upper Level	3
Semester Hours	16.1

Total Credits

Total Hours for All Requirements: 31.5

Year Four

Requirements	Credits
FACR 323A - Commercial Pilot Multi-Engine Rating I	0.1
FACR 323B - Commercial Pilot Multi-Engine Rating II	0.1
FACR 323C - Commercial Pilot Multi-Engine Rating III	0.8
ASCI 435 - Electronic Flight Management Systems	3
Humanities/Social Sciences - Upper Level	3
ASCI 254 - Aviation Legislation	3
Open Elective - Upper Level	3
Open Elective - Upper Level	3
Semester Hours	16

Requirements	Credits
ASCI 408 - Flight Safety	3
Humanities/Social Sciences - Lower or Upper Level	3
ASCI 420 - Flight Technique Analysis	3
ASCI 472 - Operational Applications in Aeronautical Science	3

Open Elective - Upper Level	1
Open Elective - Lower or Upper Level	3
Semester Hours	16

Total Credits

Total Hours for All Requirements: 32

Prescott Program Requirements

General Education Requirements	37
Core Requirements	56
Program Support Courses	3
Flight Core	5
Electives	19
Total Credits	120

Program Details

The Bachelor of Science in Aeronautical Science program requires successful completion of a minimum of 120 credit hours. The program may be completed in eight semesters, or four years, assuming appropriate background and full-time enrollment. Students pursuing this undergraduate degree must earn a minimum cumulative grade point average (CGPA) of 2.00 for all work completed at the University. The courses necessary to earn this degree are listed below.

Students should be aware that many courses have prerequisites and/or corequisites. Students are responsible for ensuring that all prerequisite and degree requirements are met prior to enrollment in advanced coursework.

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) (<https://catalog.erau.edu/academic-policies-and-procedures/flight/atsa/>) under the Flight section of this catalog.

General Education Requirements

Communication	9
COMM 122 English Composition	
Humanities - Lower Level	3
Social Sciences - Lower Level	3
PSYC 101 Introduction to Psychology	
or PSYC 222 Introduction to Industrial/Organizational Psychology	
Humanities/Social Sciences - Lower or Upper Level	3
Humanities/Social Sciences - Upper Level	3
Computer Science/Information Technology	3
Mathematics	6
MATH 111 Pre-calculus for Aviation	
MATH 112 Applied Calculus for Aviation	
Physical/Life Sciences	7
PHYS 113 Introductory Physics I	
WEAX 201 Introduction to Meteorology	
PHYS 113L Introductory Physics I Laboratory	
or WEAX 20: Survey of Meteorology Laboratory	
Total Credits	37

Core Requirements

ASCI 101 Aeronautical Science Student Success Seminar	1
or UNIV 101 College Success	
ASCI 121 Private Pilot Operations *	6
ASCI 221 Instrument Pilot Operations *	3
ASCI 254 Aviation Legislation	3

or ASCI 405	Aviation Law	
ASCI 257	Flight Physiology	3
ASCI 309	Aerodynamics	3
ASCI 310	Aircraft Performance	3
ASCI 311	Aircraft Engines - Turbine	3
ASCI 321	Commercial Pilot Operations *	4
ASCI 350	Domestic and International Navigation	3
ASCI 356	Aircraft Systems and Components	3
ASCI 387	Crew Resource Management	3
ASCI 408	Flight Safety	3
ASCI 411	Jet Transport Systems	3
ASCI 420	Flight Technique Analysis	3
ASCI 435	Electronic Flight Management Systems	3
MGMT 201	Principles of Management	3
WEAX 301	Aviation Weather	3
Total Credits		56

* ASCI 121, ASCI 221, and ASCI 321 require a grade of C or higher.

Program Support Courses

ASCI 402	Airline Operations **	3
or ASCI 410	Airline Dispatch Operations	
Total Credits		3

** ASCI 410 requires a grade of C or higher.

Flight Core

FACR 121A	Private Pilot Certification I	.1
FACR 121B	Private Pilot Certification II	.1
FACR 121C	Private Pilot Certification III	.1
FACR 121D	Private Pilot Certification IV	.1
FACR 121E	Private Pilot Certification V	.1
FACR 121F	Private Pilot Certification VI	.1
FACR 121G	Private Pilot Certification VII	.1
FACR 121H	Private Pilot Certification VIII	.8
FACR 221A	Instrument Rating I	.1
FACR 221B	Instrument Rating II	.1
FACR 221C	Instrument Rating III	.1
FACR 221D	Instrument Rating IV	.1
FACR 221E	Instrument Rating V	.1
FACR 221F	Instrument Rating VI	.5
FACR 321A	Commercial Pilot Certification I	.1
FACR 321B	Commercial Pilot Certification II	.1
FACR 321C	Commercial Pilot Certification III	.1
FACR 321D	Commercial Pilot Certification IV	.1
FACR 321E	Commercial Pilot Certification V	.1
FACR 321F	Commercial Pilot Certification VI	1
FACR 323A	Commercial Pilot Multi-Engine Rating I	.1
FACR 323B	Commercial Pilot Multi-Engine Rating II	.1
FACR 323C	Commercial Pilot Multi-Engine Rating III	.8
Total Credits		5

Electives

Open Electives - Upper Level	10
Open Electives	9
Total Credits	19

Suggested Plan of Study

Year One

Requirements	Credits
UNIV 101 - College Success	1
ASCI 121 - Private Pilot Operations	6
MATH 111 - Pre-calculus for Aviation	3
COMM 122 - English Composition	3
FACR 121A - Private Pilot Certification I	0.1
FACR 121B - Private Pilot Certification II	0.1
FACR 121C - Private Pilot Certification III	0.1
FACR 121D - Private Pilot Certification IV	0.1
Semester Hours	13.4

Requirements	Credits
MATH 112 - Applied Calculus for Aviation	3
PSYC 101 - Introduction to Psychology or 222 - Introduction to Industrial/Organizational Psychology	3
COMM 219 - Speech	3
Elective - Lower or Upper Level	3
FACR 121E - Private Pilot Certification V	0.1
FACR 121F - Private Pilot Certification VI	0.1
FACR 121G - Private Pilot Certification VII	0.1
FACR 121H - Private Pilot Certification VIII	0.8
Semester Hours	13.1

Total Credits

Total Hours for All Requirements: 26.5

Year Two

Requirements	Credits
ASCI 221 - Instrument Pilot Operations	3
PHYS 113 - Introductory Physics I	3
WEAX 201 - Introduction to Meteorology	3
WEAX 203L - Survey of Meteorology Laboratory	1
Computer Science/Information Technology	3
COMM 221 - Technical Communication or 222 - Business Communication	3
FACR 221A - Instrument Rating I	0.1
FACR 221B - Instrument Rating II	0.1
FACR 221C - Instrument Rating III	0.1
FACR 221D - Instrument Rating IV	0.1
Semester Hours	16.4

Requirements	Credits
ASCI 309 - Aerodynamics	3
ASCI 321 - Commercial Pilot Operations	4
MGMT 201 - Principles of Management	3
Humanities - Lower Level	3
Open Elective - Lower or Upper Level	3
FACR 221E - Instrument Rating V	0.1
FACR 221F - Instrument Rating VI	0.5
Semester Hours	16.6

Total Credits

Total Hours for All Requirements: 33.0

Year Three

Requirements	Credits
ASCI 356 - Aircraft Systems and Components	3
WEAX 301 - Aviation Weather	3
ASCI 310 - Aircraft Performance	3
ASCI 257 - Flight Physiology	3
Open Elective - Upper Level	3
FACR 321A - Commercial Pilot Certification I	0.1
FACR 321B - Commercial Pilot Certification II	0.1
FACR 321C - Commercial Pilot Certification III	0.1
FACR 321D - Commercial Pilot Certification IV	0.1
Semester Hours	15.4

Requirements	Credits
ASCI 411 - Jet Transport Systems	3
ASCI 311 - Aircraft Engines - Turbine	3
ASCI 387 - Crew Resource Management	3
ASCI 350 - Domestic and International Navigation	3
Open Elective - Upper Level (ASCI 380)	1
FACR 321E - Commercial Pilot Certification V	0.1
FACR 321F - Commercial Pilot Certification VI	1
Semester Hours	14.1

Total Credits

Total Hours for All Requirements: 29.5

Year Four

Requirements	Credits
ASCI 435 - Electronic Flight Management Systems	3
Humanities/Social Sciences - Upper Level	3
ASCI 254 - Aviation Legislation or 405 - Aviation Law	3
Open Elective - Upper Level	3
Open Elective - Upper Level	3

FACR 323A - Commercial Pilot Multi-Engine Rating I	0.1
FACR 323B - Commercial Pilot Multi-Engine Rating II	0.1
FACR 323C - Commercial Pilot Multi-Engine Rating III	0.8
Semester Hours	16

Requirements	Credits
ASCI 408 - Flight Safety	3
Humanities/Social Sciences - Lower or Upper Level	3
ASCI 420 - Flight Technique Analysis	3
ASCI 402 - Airline Operations or 410 - Airline Dispatch Operations	3
Open Elective - Lower or Upper Level	3
Semester Hours	15

Total Credits

Total Hours for All Requirements: 31