B.S. in Aviation Safety

The future of the aviation industry depends upon maintaining the trust of the traveling public in a rapidly changing environment. Recognizing the importance of managing risk in this dynamic ecosystem, Embry-Riddle continues to invest in aviation safety establishing the Boeing Center for Aviation and Aerospace Safety as well as providing students will educational opportunities and the undergraduate and master's degree levels. ERAU is the world-renowned leader in aviation and aerospace education, has deep connections with the defense and aerospace industries and is well-positioned to lead the way for our students in these industries and across private and public aviation and transportation safety sectors.

The BSAVS curriculum consists of 40 courses (120 credit hours) including general education, core classes, and program support. The curriculum introduces domains integral to aviation operations, including maintenance, air traffic control, airport operations, and flight operations. Next it addresses critical categories specifically related to safety, including weather, accident investigation, human factors and safety management systems. Finally, it introduces new areas of emphasis that are increasingly important in aviation safety, including uncrewed and autonomous systems, data science and crisis communications. Most importantly, all this material is constructed within and upon the student developing an essential understanding of safety leadership and ethics. The curriculum distinguishes ERAU from its competitors and provides students with the skills and abilities industry regards most highly.

BSAVS students who wish to continue their education to a master's degree and fulfill requirements may enroll in the BSAVS to MSAVS 4+1 program as outlined in this program.

Estimated Cost of Attendance

Students will:

- Identify the essential components of air transportation that impact aviation safety.
- Select, use and manage the tools, techniques and programs that promote and enhance aviation safety.
- Interpret safety-related data to make informed decisions and recommendations that enhance aviation safety.
- Explain the tenets of ethical responsibility as it applies to aviation safety.

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

Program Core		
AMNT 424	Maintenance Repair and Overhaul in Aviation	3
ASCI 202	Introduction to Aeronautical Science	3
ASCI 254	Aviation Legislation	3
ASCI 301	Introduction to Air Traffic Control	3
ASCI 426	Airport Management in ATM	3
BSAS 210	Introduction to Aerospace Safety	3
HUMN 430	Ethics in Aviation	3
BSAS 320	Human Factors in Aviation Safety	3
BSAS 330	Aircraft Accident Investigation	3
BSAS 335	Mechanical and Structural Factors in Aviation Safety	3
BSAS 345	Aviation Safety Program Management	3
BSAS 350	Aircraft Crash and Emergency Management	3
BSAS 409	Aviation Safety	3
SFTY 311	Fundamentals of Occupational Safety and Health	3
SFTY 321	Ergonomics	3
SFTY 440	System Safety Management	3
UNSY 315	Uncrewed Aircraft Systems and Operations	3
UNSY 431	Uncrewed Systems Human Factors Considerations	3
WEAX 301	Aviation Weather	3
ASCI 491	Operational Applications in Aeronautics	3
Total Credits		**60**

Program Support		
COMD 460	Crisis Communication	3
CSCI 123	Introduction to Computing for Data Analysis	3
CSCI 251	Introduction to Programming for Data Science	3
DSCI 201	Introduction to Data Science Applications	3
DSCI 310	Data Storytelling	3
MMIS 221	Introduction to Management Information Systems	3
STAT 211	Statistics with Aviation Applications	3
MGMT 201	Principles of Management	3
Total Credits		**24**

Total Degree Requirements	**120**

Plan of Study (BSAVS)

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 and Skills above ENGL 106	3
	Social Science	3
	Credits Subtotal	**6.0**
	Credits Total:	**30.0**

Year Two

Term 1		**Credits**
ASCI 202	Introduction to Aeronautical Science	3
	Physical Science/Physics	3
	Credits Subtotal	**6.0**
Term 2		
BSAS 210	Introduction to Aerospace Safety	3
WEAX 301	Aviation Weather	3
	Credits Subtotal	**6.0**
Term 3		
ASCI 301	Introduction to Air Traffic Control	3
	Humanities Upper-Level (HUMN)	3
	Credits Subtotal	**6.0**
Term 4		
SFTY 311	Fundamentals of Occupational Safety and Health	3
SFTY 321	Ergonomics	3
	Credits Subtotal	**6.0**
Term 5		
BSAS 320	Human Factors in Aviation Safety	3
BSAS 330	Aircraft Accident Investigation	3
	Credits Subtotal	**6.0**
	Credits Total:	**30.0**

Year Three

Term 1		**Credits**
BSAS 335	Mechanical and Structural Factors in Aviation Safety	3
BSAS 345	Aviation Safety Program Management	3
	Credits Subtotal	**6.0**
Term 2		
BSAS 350	Aircraft Crash and Emergency Management	3
BSAS 409	Aviation Safety	3
	Credits Subtotal	**6.0**
Term 3		
SFTY 440	System Safety Management	3
AMNT 424	Maintenance Repair and Overhaul in Aviation	3
	Credits Subtotal	**6.0**
Term 4		
UNSY 315	Uncrewed Aircraft Systems and Operations	3
ASCI 426	Airport Management in ATM	3
	Credits Subtotal	**6.0**
Term 5		
ASCI 254	Aviation Legislation	3
UNSY 431	Uncrewed Systems Human Factors Considerations	3
	Credits Subtotal	**6.0**
	Credits Total:	**30.0**

Year Four

Term 1		**Credits**
STAT 211	Statistics with Aviation Applications	3
COMD 460	Crisis Communication	3
	Credits Subtotal	**6.0**
Term 2		
CSCI 123	Introduction to Computing for Data Analysis	3
CSCI 251	Introduction to Programming for Data Science	3
	Credits Subtotal	**6.0**
Term 3		
DSCI 201	Introduction to Data Science Applications	3
DSCI 310	Data Storytelling	3
	Credits Subtotal	**6.0**
Term 4		
MMIS 221	Introduction to Management Information Systems	3
MGMT 201	Principles of Management	3
	Credits Subtotal	**6.0**
Term 5		
HUMN 430	Ethics in Aviation	3
ASCI 491	Operational Applications in Aeronautics	3
	Credits Subtotal	**6.0**
	Credits Total:	**30.0**

Total Degree Requirements	**120**

BSAVS to MSAVS 4+1 Program

This program is for exceptional 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 Aviation Safety (BSAVS) and the M.S. in Aviation Safety Master of Science in Aviation Safety (MSAVS) in five academic years.

After spending three academic years in undergraduate-level study, BSAVS students who are accepted in the BSAVS-MSAVS 4+1 program option will be allowed to take up to three (3) MSAVS courses to replace an equal number of remaining BSAVS courses during their senior year. Before selecting the courses to be taken, students must confer with an advisor to ensure that the courses selected meet the program requirements. A grade level average of B or better must be maintained for selected MSAVS courses while enrolled in the BSAVS-MSAVS 4+1 program.

Students who fail in any of their selected MSAVS courses or fail to maintain a grade average of B or better while still completing BSAVS degree requirements will be removed from the 4+1 program option, have credit awarded to the BSAVS degree only, and may continue to complete their undergraduate degree program.

This elite program will challenge students and further develop their knowledge, skills, abilities, and attitudes in the concepts of aviation and aerospace safety while integrating their gained experience. Students will learn the theory and application of system safety and human performance, as well as the practical management of safety programs, safety data analysis, and accident investigation. They will hone critical thinking, teamwork, and communication skills while learning from experts in the field and collaborating with students from around the world. Subject areas include industrial and ground safety and emergency management as well as flight operations safety. This program will prepare students for careers in operations or safety with traditional employers such as major airlines, or

with new entrants in unmanned systems or commercial space. Students will have the option to access Prescott campus facilities such as the crash investigation lab.

As a minimum to be considered for acceptance to this BSAVS-MSAVS 4+1 option, applicant students must hold at least a 3.00 GPA, completed at least 75 credit hours of the BSAVS program requirements to apply and demonstrated superior academic capability.

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.