

B.S. in Aviation Maintenance Science (Part 147)

Students in the Bachelor of Science in Aviation Maintenance Science develop skills to inspect, service, troubleshoot and repair aircraft. The program includes instruction delivered by faculty with experience across aviation industry sectors.

At the **Daytona Beach Campus**, the Aviation Maintenance Science program includes focused study areas to support skill development in aviation mechanics. The curriculum may be complemented by minors aligned with the FAA Airframe and Powerplant (A&P) certification. Students may also pursue certifications such as the FCC General Radiotelephone Operators License (GROL), AeroIT certification and the NCATT Aircraft Electronics Technician (AET) certificate, including through the Avionics Line Maintenance minor. Students must complete at least one minor. Options include Aviation Safety, which includes industrial and aviation safety coursework; Avionics Line Maintenance, which focuses on aircraft electronic systems; Business Administration, which supports progression into management roles; and Cybersecurity Application and Management, which addresses aerospace connectivity and data security.

Program-Level Student Learning Outcomes

Students will:

- Evaluate aircraft performance using aviation mathematics and physics relevant to aircraft airworthiness.
- Combine skill and technical competence to solve complex aviation maintenance problems.
- Apply leadership and management principles to both teamwork and supervisory roles.
- Apply knowledge of the aviation environment by accurately returning aircraft to service within various environments.
- Demonstrate the use of special equipment and tools in the practice of aviation maintenance.
- Interpret and analyze written and/or electronic technical instructions.
- Demonstrate professional and ethical behaviors in the role as maintenance technicians and/or supervisors.
- Evaluate the efficiency and safety of technical operations and make recommendations for improvements.
- Use education and training to actively engage in life-long learning relevant to the work environment.
- Analyze trends in the aviation maintenance industry in written and spoken formats.

Daytona Beach Program Requirements

General Education Requirements	37
Core Requirements	48
Program Support Courses	18
Minor	12-15
Electives	6-9
Total Credits *	121 or 124 or 127

* The total credits required will vary depending on the selected minor.

General Education Requirements

Communication	9
COMM 122	English Composition
COMM 219	Speech
COMM 221	Technical Communication
Humanities - Lower Level	3
Social Sciences - Lower Level	3
PSYC 101	Introduction to 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
1 Credit Hour Lab Required	
Total Credits	37

Core Requirements

AMST 115	Aviation Mathematics and Physics	2
AMST 116	Fundamentals of Electricity	4
AMST 117	Tools, Materials and Processes	4
AMST 118	Aircraft Familiarization and Regulations	2
AMST 261	Aircraft Metallic Structures	3
AMST 262	Aircraft Composite Structures	3
AMST 263	General Aviation Aircraft Systems	3
AMST 264	General Aviation Aircraft Electrical and Instrument Systems	3
AMST 271	Aircraft Reciprocating Powerplant and Systems	3
AMST 272	Powerplant Electrical and Instrument Systems	3
AMST 273	Propeller Systems	2
AMST 274	Aircraft Turbines Powerplants and Systems	4
AMST 365	Transport Category Aircraft Systems	3
AMST 366	Transport Category Aircraft Electrical and Instrument Systems	3
AMST 375	Repair Station Operations	3
AMST 376	Powerplant Line Maintenance	3
Total Credits		48

Program Support Courses

AMSA 350	Aviation Connectivity and Cybersecurity	3
AMSA 420	Electronic Documentation and Aircraft Systems Troubleshooting	3
AMSA 490	Aviation Technical Operations	3
AVSF 210	Introduction to Aerospace Safety	3
CYBR 235	Computer and Network Technologies	3
MGMT 201	Principles of Management	3
Total Credits		18

Minor

Choose One of the Following Required Minors: **	12-15
Aviation Safety	
Avionics Line Maintenance	
Business Administration	
Cybersecurity Application and Management	
Total Credits	12-15

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- Minor in Aviation Safety (<https://catalog.erau.edu/programs/undergraduate/minors/aviation-safety/#daytonabeachtext>)
 - Minor in Avionics Line Maintenance (<https://catalog.erau.edu/programs/undergraduate/minors/avionics-line-maintenance/#daytonabeachtext>)
 - Minor in Business Administration (<https://catalog.erau.edu/programs/undergraduate/minors/business-administration/#daytonabeachtext>)
 - Minor in Cybersecurity Application and Management (<https://catalog.erau.edu/programs/undergraduate/minors/cybersecurity-application-and-management/#daytonabeachtext>)

Electives

Open Electives	6-9
Total Credits	6-9

Suggested Plan of Study

Year One

Requirements	Credits
AMST 115 - Aviation Mathematics and Physics	2
AMST 116 - Fundamentals of Electricity	4
AMST 117 - Tools, Materials and Processes	4
AMST 118 - Aircraft Familiarization and Regulations	2
COMM 122 - English Composition	3
Semester Hours	15

Requirements	Credits
AMST 261 - Aircraft Metallic Structures	3
AMST 262 - Aircraft Composite Structures	3
AMST 263 - General Aviation Aircraft Systems	3
AMST 264 - General Aviation Aircraft Electrical and Instrument Systems	3
MATH 111 - Pre-calculus for Aviation	3
Semester Hours	15

Requirements	Credits
AMST 365 - Transport Category Aircraft Systems	3
AMST 366 - Transport Category Aircraft Electrical and Instrument Systems	3
AMST 271 - Aircraft Reciprocating Powerplant and Systems	3
AMST 272 - Powerplant Electrical and Instrument Systems	3
MATH 112 - Applied Calculus for Aviation	3
Semester Hours	15

Total Credits

Total Hours for All Requirements: 45

Year Two

Requirements	Credits
AMST 273 - Propeller Systems	2
AMST 274 - Aircraft Turbines Powerplants and Systems	4
AMST 375 - Repair Station Operations	3
AMST 376 - Powerplant Line Maintenance	3
CPSC 120 - Introduction to Computing in Aviation	3
Semester Hours	15

Requirements	Credits
MGMT 201 - Principles of Management	3
AVSF 210 - Introduction to Aerospace Safety	3
CYBR 235 - Computer and Network Technologies	3
Humanities - Lower Level	3
Semester Hours	12

Total Credits

Total Hours for All Requirements: 27

Year Three

Requirements	Credits
AMSA 350 - Aviation Connectivity and Cybersecurity	3
COMM 221 - Technical Communication	3
PHYS 113 - Introductory Physics I	3
PHYS 113L - Introductory Physics I Laboratory	1
Minor Course	3
Open Elective - Upper Level	3
Semester Hours	16

Requirements	Credits
Minor Course	3
COMM 219 - Speech	3
PSYC 101 - Introduction to Psychology	3
Physical/Life Sciences	3
Semester Hours	12

Total Credits

Total Hours for All Requirements: 28

Year Four

Requirements	Credits
AMSA 420 - Electronic Documentation and Aircraft Systems Troubleshooting	3
Humanities/Social Sciences - Lower or Upper Level	3
Minor Course	3
Open Elective - Upper Level	3
Semester Hours	12

Requirements	Credits
AMSA 490 - Aviation Technical Operations	3
Humanities/Social Sciences - Upper Level	3
Open Elective - Upper Level (if BA minor)	3
Minor Course	3
Minor Course	3
Semester Hours	15

Total Credits

Total Hours for All Requirements: 27

* Degree totals and plan may change based on the selected minor.

Avionics Line Maintenance = 121 total credits

Aviation Safety = 124 total credits

Business Administration = 127 total credits

Cybersecurity Application and Management = 121 total credits