

# M.S. in Aerospace Engineering

Aerospace engineers are in huge demand for industries from military services to space travel, and the right degree from a prestigious institution can open doors for a lifetime. Embry-Riddle's Master of Science in Aerospace Engineering (MSAE) has been one of the field's most sought-after degrees for decades.

You will develop the skills to conquer challenges currently facing military and commercial air and spacecraft technology. You'll be prepared to participate in and lead cutting-edge research projects. You'll gain entry into the highest levels of private and government operations.

And now, you'll be able to get your MSAE from the convenience of your home. No commute, no classroom, no rigid schedule. It's education designed around your life.

After completing the MSAE, you will be prepared to participate in the development of military and commercial aircraft, spacecraft designs, and government projects. You will also be positioned to continue your studies with advanced research through programs such as Embry-Riddle's Ph.D. in Aerospace Engineering.

## Program-Specific Criteria

### Admissions Criteria

Applicants for admission to the MSAE Degree Program must meet the following criteria:

- Provide evidence of an undergraduate Bachelor of Science degree in Aeronautical or Aerospace Engineering, or equivalent with a cumulative grade point average (CGPA) of 3.0 or higher, on a 4.0 scale. If earned in the United States, the degree must be from an ABET-accredited program (accredited by the Engineering Accreditation Commission, EAC). Applicants with graduate coursework must meet the established graduate transfer CGPA. Students with a Bachelor of Science or equivalent degree in other engineering disciplines, who otherwise meet the requirements for full admission, may also be admitted to the MSAE program.
- The Graduate Records Examination (GRE) is required.

Note: Graduates of Embry-Riddle Aeronautical University receiving an engineering (ABET EAC – accredited) degree with at least a 3.2 undergraduate GPA may be excused from the GRE, letters of recommendation, and Statement of Objectives requirements.

**EXCEPTIONS:** Applicants who fail to satisfy the guidelines for full admission may be considered for conditional admission under circumstances determined by the Admissions Office or Program Chair. Applicants will be required to submit the following documentation in addition to official transcripts:

- Submit (3) letters of recommendation, including (2) from a recent instructor.
- Submit a current resume outlining your education, work experience, special activities and awards.
- Prepare a type-written *Statement of Objectives*, demonstrating strong capacity for written communication and elucidating the following topic areas:
  - A description of the applicant's reasons for wishing to do graduate work in the field chosen
  - A description of the applicant's interests and background
  - A description of the applicant's long-term professional goals, defining how Embry-Riddle's MSAE program supports those interests and goals

Download the **Graduate Program Recommendation Form**

Estimated Cost of Attendance

Students will:

- Use analytical methods to analyze and solve engineering problems.
- Conduct research and/or independent study.
- Use written and oral communication effectively.
- Use numerical methods to analyze and solve engineering problems.

## DEGREE REQUIREMENTS

### Core/Major

|   |  |           |
|---|--|-----------|
| AENG 502                                    | Strength and Fatigue of Materials                          | 3         |
| AENG 510                                    | Aircraft Structural Dynamics                               | 3         |
| AENG 511                                    | Engineering Materials Selection                            | 3         |
| AENG 514                                    | Introduction to the Finite Element Method                  | 3         |
| AENG 522                                    | Analysis of Aircraft Composite Materials                   | 3         |
| AENG 540                                    | Structural Health Monitoring                               | 3         |
| AENG 612                                    | Analysis of Aircraft Plate and Shell Structures            | 3         |
| AENG 525                                    | Structural Design Optimization                             | 3         |
| MATH 502                                    | Boundary Value Problems                                    | 3         |
| Take one of the following elective courses: |  | 3         |
| SYSE 500                                    | Fundamentals of Systems Engineering                        |           |
|   | or SYSE 56C Introduction to Systems Engineering Management |           |
| SYSE 530                                    | System Requirements Analysis and Modeling                  |           |
| SYSE 610                                    | System Architecture Design and Modeling                    |           |
| SYSE 625                                    | System Quality Assurance                                   |           |
| AWEN 502                                    | Airworthiness Process and Procedures                       |           |
| AWEN 510                                    | Aircraft Airworthiness Engineering Principles              |           |
| <b>Total Degree Requirements</b>            |  | <b>30</b> |