

M.S. in Aerospace Engineering

Worldwide Program Requirements

Core Requirements	27
Electives	3
Total Credits	30

Program Details

The Master of Science in Aerospace Engineering requires successful completion of a minimum of 30 credit hours. Students enrolled in the Worldwide Graduate Online program may complete the degree in six terms, or approximately two years, assuming full-time enrollment and continuous progress. Students pursuing this graduate degree must earn a minimum cumulative grade point average (CGPA) of 3.00 for all work completed at the University. The courses required 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 satisfied prior to enrollment in advanced coursework. The suggested plan of study is provided as a guide. A student's actual plan of study may vary based on term of admission, course availability, transfer credit, and other academic considerations. Students should consult with their academic advisor to develop an individualized plan of study.

Students must complete the required aerospace engineering core curriculum and one approved elective in systems engineering or airworthiness engineering. Students should work closely with their academic advisor to ensure prerequisite requirements are met and courses are completed in the recommended sequence.

Core Requirements

AERO 502	Strength and Fatigue of Materials	3
AERO 510	Aircraft Structural Dynamics	3
AERO 511	Engineering Materials Selection	3
AERO 515	Introduction to the Finite Element Method	3
AERO 522	Analysis of Aircraft Composite Materials	3
AERO 525	Structural Design Optimization	3
AERO 540	Structural Health Monitoring	3
AERO 612	Analysis of Aircraft Plate and Shell Structures	3
MATH 502	Boundary Value Problems	3
Total Credits		27

Electives

Choose One of the Following:	3
AWEN 502	Airworthiness Process and Procedures
AWEN 510	Aircraft Airworthiness Engineering Principles
SYSE 500	Fundamentals of Systems Engineering
SYSE 530	System Requirements Analysis and Modeling
SYSE 560	Introduction to Systems Engineering Management
SYSE 610	System Architecture Design and Modeling
SYSE 625	System Quality Assurance
Total Credits	3

Suggested Plans of Study

One-Year Plan

This one-year plan only works if the degree is started in the January term.

Year One

Requirements	Credits
MATH 502 - Boundary Value Problems	3
AERO 510 - Aircraft Structural Dynamics	3
Semester Hours	6

Requirements	Credits
AERO 502 - Strength and Fatigue of Materials	3
AERO 515 - Introduction to the Finite Element Method	3
Semester Hours	6

Requirements	Credits
AERO 511 - Engineering Materials Selection	3
AERO 540 - Structural Health Monitoring	3
Semester Hours	6

Requirements	Credits
AERO 522 - Analysis of Aircraft Composite Materials	3
AERO 612 - Analysis of Aircraft Plate and Shell Structures	3
Semester Hours	6

Requirements	Credits
AERO 525 - Structural Design Optimization	3
Elective	3
Semester Hours	6

Total Credits

Total Hours for All Requirements: 30

Two-Year Plan

Year One

Requirements	Credits
MATH 502 - Boundary Value Problems	3
Semester Hours	3

Requirements	Credits
AERO 502 - Strength and Fatigue of Materials	3
Semester Hours	3

Requirements	Credits
AERO 510 - Aircraft Structural Dynamics	3
Semester Hours	3

Requirements	Credits
AERO 515 - Introduction to the Finite Element Method	3
Semester Hours	3

Requirements	Credits
AERO 511 - Engineering Materials Selection	3
Semester Hours	3

Total Credits

Total Hours for All Requirements: 15

Year Two

Requirements	Credits
AERO 522 - Analysis of Aircraft Composite Materials	3
Semester Hours	3

Requirements	Credits
AERO 525 - Structural Design Optimization	3
Semester Hours	3

Requirements	Credits
AERO 540 - Structural Health Monitoring	3
Semester Hours	3

Requirements	Credits
AERO 612 - Analysis of Aircraft Plate and Shell Structures	3
Semester Hours	3

Requirements	Credits
Elective	3
Semester Hours	3

Total Credits

Total Hours for All Requirements: 15

Estimated Cost of Attendance

Estimated Cost of Attendance: California Student Information (<https://catalog.erau.edu/student-life/student-affairs/california-student/>)