

B.S. in Engineering Technology

Offered entirely online in the College of Aviation's School of Engineering, the Engineering Technology program prepares students to put their engineering skills to work in a variety of industries. This degree program allows students to participate in research projects, virtual labs, and a capstone course, ensuring they graduate with the fundamental skills needed to achieve their career aspirations.

This degree explores the topics most aligned with your goals and interests. Through cutting-edge virtual labs and simulation methods, students will develop the skills to design, refine, and apply engineering technologies across a range of industries. Students can choose to target their studies with a particular concentration, including Aeronautical Science, Aviation Safety, Helicopter Operations and Safety, Logistics Management, Management Information Systems, Occupational Safety and Health, Project Management, Security and Intelligence, and Uncrewed and Autonomous Systems.

The Bachelor of Science in Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org (<http://www.abet.org/>), under the commission's General Criteria with no applicable program criteria.

Program-Level Student Learning Outcomes

Students will:

- Have an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline.
- Have an ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- Have an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.
- Have an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.
- Have an ability to function effectively as a member as well as a leader on technical teams.

Worldwide Program Requirements

General Education Requirements	42
Core Requirements	53
Concentrations	18
Electives	9
Total Credits	122

Program Details

The Bachelor of Science in Engineering Technology requires successful completion of a minimum of 122 credit hours. Students enrolled in the Worldwide Undergraduate Online program may complete the degree in 20 terms, or approximately four years, assuming full-time enrollment and continuous progress. 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 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 are required to complete 18 credit hours of concentration coursework by selecting at least three courses from each of two available concentration areas. In consultation with their academic advisor, students should choose concentrations that best align with their academic interests and career goals while satisfying degree requirements.

General Education Requirements

Embry-Riddle courses in the general education categories of Communication Theory and Skills, and Humanities and Social Sciences may be chosen from those listed below, assuming prerequisites are met. Courses from other institutions are acceptable if they fall into these broad categories and are at the level specified.

Communication	9
COMM 122	English Composition
English/Speech Electives	
Humanities - Lower Level	3
Social Sciences - Lower Level	6
ECON 210	Microeconomics
ECON 211	Macroeconomics
Humanities/Social Sciences - Upper Level	3
HUMN 330	Values and Ethics
Computer Science/Information Technology	3
ENGR 115	Introduction to Computing for Engineers
Mathematics	8
MATH 241	Calculus and Analytical Geometry I
MATH 242	Calculus and Analytical Geometry II
Physical/Life Sciences	10
CHEM 110	General Chemistry I
CHEM 110L	General Chemistry I Laboratory
PHYS 150	Physics with Calculus I
PHYS 160	Physics with Calculus II
Total Credits	42

Core Requirements

Business		
STAT 222	Business Statistics	3
Leadership and Management		
MGMT 201	Principles of Management	3
MGMT 203	Management for Aeronautical Science	3
Technical Core		
ENGR 101W	Introduction to Engineering	3
ENGR 120	Graphical Communications	3
ESCI 201	Statics	3
ESCI 202	Solid Mechanics	3
ESCI 204	Dynamics	3
ESCI 206	Fluid Mechanics	3
CESC 220	Digital Circuit Design	3
CESC 220L	Digital Circuit Design Laboratory	1
RSCH 202	Introduction to Research Methods	3
ETEC 310	Material Science for Engineering Technology	3
ETEC 315	Circuits for Engineering Technology	3
ETEC 315L	Circuits Laboratory for Engineering Technology	1
ETEC 410	Thermodynamics for Engineering Technology	3
ETEC 415	Control Systems	3
ETEC 490	Engineering Technology Capstone I	3

ETEC 491	Engineering Technology Capstone II	3
Total Credits		53

Concentrations

Choose Two of the Following Concentrations:

Aviation Safety

AVSF 320	Human Factors in Aviation Safety	3
AVSF 330	Aircraft Accident Investigation	3
AVSF 409	Aviation Safety	3
Total Credits		9

Aeronautical Science

ASCI 309	Aerodynamics	3
AMNT 429	Advanced Technologies in Design and Production of Aircraft Structures and Systems	3
ETEC 409	Applied Aeronautics	3
Total Credits		9

Helicopter Operations and Safety

ASCI 326	Rotorcraft	3
ASCI 378	Helicopter Flight Environments	3
ASCI 388	Helicopter Flight Planning	3
Total Credits		9

Uncrewed and Autonomous Systems

UNSY 220	Uncrewed Aircraft Systems	3
UNSY 318	UAS Robotics	3
UNSY 403	Uncrewed Sensing Systems	3
Total Credits		9

Logistics Management

SCLM 331	Transportation Principles	3
SCLM 410	Management of Air Cargo	3
SCLM 411	Logistics Management for Aviation/Aerospace	3
Total Credits		9

Management Information Systems

MMIS 320	Business Information Systems	3
MMIS 392	Database Management	3
MMIS 494	Aviation Information Systems	3
Total Credits		9

Occupational Safety and Health

SFTY 311	Occupational Safety and Health	3
SFTY 321	Occupational Ergonomics I	3
SFTY 355	Industrial Hygiene and Toxicology	3
Total Credits		9

Project Management

MGMT 381	Project Planning I	3
MGMT 382	Project Planning II	3
MGMT 400	Project Risk and Control	3
Total Credits		9

Security and Intelligence

INTL 315	Studies in Intelligence I	3
INTL 385	Intelligence Collection and Analysis	3

INTL 488	National Security Issues and Terrorism	3
Total Credits		9

Electives

Open Electives	9
Total Credits	9

Suggested Plan of Study

Year One

Requirements	Credits
ENGR 101W - Introduction to Engineering	3
COMM 122 - English Composition	3
Semester Hours	6

Requirements	Credits
MATH 241 - Calculus and Analytical Geometry I	4
ENGR 115 - Introduction to Computing for Engineers	3
Humanities - Lower Level	3
Semester Hours	10

Requirements	Credits
MATH 242 - Calculus and Analytical Geometry II	4
PHYS 150 - Physics with Calculus I	3
Semester Hours	7

Requirements	Credits
PHYS 160 - Physics with Calculus II	3
ECON 210 - Microeconomics	3
English/Speech	3
Semester Hours	9

Total Credits

Total Hours for All Requirements: 32

Year Two

Requirements	Credits
ENGR 120 - Graphical Communications	3
CHEM 110 - General Chemistry I	3
CHEM 110L - General Chemistry I Laboratory	1
English/Speech	3
Semester Hours	10

Requirements	Credits
ESCI 201 - Statics	3
CESC 220 - Digital Circuit Design	3
CESC 220L - Digital Circuit Design Laboratory	1
Semester Hours	7

Requirements	Credits
ESCI 202 - Solid Mechanics	3
ESCI 206 - Fluid Mechanics	3
ECON 211 - Macroeconomics	3
Semester Hours	9

Requirements	Credits
ESCI 204 - Dynamics	3
STAT 222 - Business Statistics	3
Semester Hours	6

Total Credits

Total Hours for All Requirements: 32

Year Three

Requirements	Credits
ETEC 310 - Material Science for Engineering Technology	3
RSCH 202 - Introduction to Research Methods	3
Semester Hours	6

Requirements	Credits
HUMN 330 - Values and Ethics	3
MGMT 201 - Principles of Management	3
Area of Concentration	3
Semester Hours	9

Requirements	Credits
MGMT 203 - Management for Aeronautical Science	3
ETEC 315 - Circuits for Engineering Technology	3
ETEC 315L - Circuits Laboratory for Engineering Technology	1
Semester Hours	7

Requirements	Credits
Area of Concentration	3
Area of Concentration	3
Open Elective	3
Semester Hours	9

Total Credits

Total Hours for All Requirements: 31

Year Four

Requirements	Credits
Area of Concentration	3
Area of Concentration	3
Open Elective	3
Semester Hours	9

Requirements	Credits
ETEC 410 - Thermodynamics for Engineering Technology	3
ETEC 415 - Control Systems	3
Semester Hours	6

Requirements	Credits
ETEC 490 - Engineering Technology Capstone I	3
Area of Concentration	3
Semester Hours	6

Requirements	Credits
ETEC 491 - Engineering Technology Capstone II	3

Open Elective	3
Semester Hours	6

Total Credits

Total Hours for All Requirements: 27