

B.S. in Electrical Engineering

Daytona Beach Program Requirements

General Education Requirements	42
Core Requirements	40
Standard Track	44
Total Credits	126

Program Details

The Bachelor of Science in Electrical Engineering program requires successful completion of a minimum of 126 semester hours. The program may be completed in eight regular semesters, assuming appropriate background and full-time enrollment. A minimum cumulative grade point average of 2.0 is needed for all required CESC, CPSC, ELEC, ENGR, SFTW, and SYSE courses that fulfill degree requirements.

General Education Requirements

For a full description of Embry-Riddle General Education guidelines, please see the General Education (<https://catalog.erau.edu/general-education/>) section of this catalog. These minimum requirements are applicable to all degree programs.

Communication	9
COMM 122 English Composition	
COMM 219 Speech	
COMM 221 Technical Communication	
Humanities - Lower Level	3
Social Sciences - Lower Level	3
Humanities/Social Sciences - Lower or Upper Level	3
Humanities/Social Sciences - Upper Level	3
Computer Science/Information Technology	3
CPSC 223 Scientific Programming in C	
Mathematics	8
MATH 241 Calculus and Analytical Geometry I	
MATH 242 Calculus and Analytical Geometry II	
Physical/Life Sciences	10
PHYS 150 Physics with Calculus I	
PHYS 160 Physics with Calculus II	
PHYS 250 Physics with Calculus III	
PHYS 250L Physics with Calculus III Laboratory	
Total Credits	42

Core Requirements

ENGR 101 Introduction to Engineering	2
UNIV 101 College Success	1
CESC 220 Digital Circuit Design	3
CESC 220L Digital Circuit Design Laboratory	1
CESC 320 Microprocessor Systems	3
CESC 320L Microprocessor Systems Laboratory	1
ELEC 223 Linear Circuits Analysis I	3
ELEC 223L Electrical Engineering Laboratory I	1
ELEC 302 Electronic Devices and Circuits	3
ELEC 302L Electronic Circuits Laboratory	1
ELEC 340 Electric and Magnetic Fields	3
ELEC 401 Control Systems Analysis and Design	3
ELEC 401L Control Systems Laboratory	1
MATH 243 Calculus and Analytical Geometry III	4

MATH 345 Differential Equations and Matrix Methods	4
MATH 412 Probability and Statistics	3
MATH 441 Mathematical Methods for Engineering and Physics I	3
Total Credits	40

Standard Track

ELEC 490 Electrical Engineering Capstone I	3
ELEC 491 Electrical Engineering Capstone II	3
CESC 315 Signals and Systems	3
CESC 410 Digital Signal Processing	3
CESC 410L Digital Signal Processing Laboratory	1
CPSC 344 C Programming and UNIX	3
ELEC 300 Linear Circuits Analysis II	3
ELEC 307 Avionics I	3
ELEC 308 Introduction to Electrical Communications	3
ELEC 417 Digital Communications	3
ELEC 430 Introduction to Radio Frequency Circuits	3
ELEC 430L Radio Frequency Circuits Laboratory	1
SYSE 301 Introduction to Systems Engineering	3
Specified Electives *	6
CESC/CPSC/ELEC/SFTW/SYSE Elective - Upper Level	3
Total Credits	44

* Specified electives are courses to be selected, with the approval of the Program Coordinator, to support acquiring a minor, an identified concentration of domain knowledge (for example, but not restricted to aerospace, aviation, business, communications, human factors, mathematics, etc.) or further depth in systems engineering, electrical engineering, or related discipline.

Suggested Plan of Study

Year One

Requirements	Credits
COMM 122 - English Composition	3
CPSC 223 - Scientific Programming in C	3
ENGR 101 - Introduction to Engineering	2
MATH 241 - Calculus and Analytical Geometry I	4
UNIV 101 - College Success	1
Social Sciences - Lower Level	3
Semester Hours	16

Requirements	Credits
CESC 220 - Digital Circuit Design	3
CESC 220L - Digital Circuit Design Laboratory	1
MATH 242 - Calculus and Analytical Geometry II	4
PHYS 150 - Physics with Calculus I	3
Humanities - Lower Level (140 series)	3
Semester Hours	14

Total Credits

Total Hours for All Requirements: 30

Year Two

Requirements	Credits
CESC 320 - Microprocessor Systems	3
CESC 320L - Microprocessor Systems Laboratory	1
COMM 221 - Technical Communication	3
MATH 243 - Calculus and Analytical Geometry III	4
PHYS 160 - Physics with Calculus II	3
CPSC 344 - C Programming and UNIX	3
Semester Hours	17

Requirements	Credits
MATH 345 - Differential Equations and Matrix Methods	4
PHYS 250 - Physics with Calculus III	3
PHYS 250L - Physics with Calculus III Laboratory	1
ELEC 223 - Linear Circuits Analysis I	3
ELEC 223L - Electrical Engineering Laboratory I	1
CESC 315 - Signals and Systems	3
Semester Hours	15

Total Credits

Total Hours for All Requirements: 32

Year Three

Requirements	Credits
CESC 410 - Digital Signal Processing	3
CESC 410L - Digital Signal Processing Laboratory	1
ELEC 300 - Linear Circuits Analysis II	3
ELEC 302 - Electronic Devices and Circuits	3
ELEC 302L - Electronic Circuits Laboratory	1
ELEC 308 - Introduction to Electrical Communications	3
MATH 441 - Mathematical Methods for Engineering and Physics I	3
Semester Hours	17

Requirements	Credits
MATH 412 - Probability and Statistics	3
ELEC 340 - Electric and Magnetic Fields	3
ELEC 401 - Control Systems Analysis and Design	3
ELEC 401L - Control Systems Laboratory	1
SYSE 301 - Introduction to Systems Engineering	3

COMM 219 - Speech	3
Semester Hours	16

Total Credits

Total Hours for All Requirements: 33

Year Four

Requirements	Credits
ELEC 307 - Avionics I	3
ELEC 430 - Introduction to Radio Frequency Circuits	3
ELEC 430L - Radio Frequency Circuits Laboratory	1
ELEC 490 - Electrical Engineering Capstone I	3
Humanities/Social Sciences - Upper or Lower Level	3
Specified Elective	3
Semester Hours	16

Requirements	Credits
ELEC 417 - Digital Communications	3
ELEC 491 - Electrical Engineering Capstone II	3
HUMN 330 - Values and Ethics or 335 - Technology and Modern Civilization	3
EECS Elective	3
Specified Elective	3
Semester Hours	15

Total Credits

Total Hours for All Requirements: 31