

Standing Requirements

Program Mission Statement

Provide challenging educational programs and cutting-edge research opportunities, enabling students for successful careers in aerospace, related, and similar industries.

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ERAU University Mission Statement

Our mission is to teach the science, practice and business of aviation and aerospace, preparing students for productive careers¹ and leadership roles in service around the world.²

Our technologically enriched, student-centered environment³ emphasizes learning through collaboration and teamwork,⁴ concern for ethical and responsible behavior,⁵ cultivation of analytical⁶ and management abilities,⁷ and a focus on the development of the professional skills needed for participation in a global community.⁸ We believe a vibrant future for aviation and aerospace rests in the success of our students. Toward this end, Embry-Riddle is committed to providing a climate that facilitates the highest standards of academic achievement⁹ and knowledge discovery,¹⁰ in an interpersonal environment that supports the unique needs of each individual.¹¹ Embry-Riddle Aeronautical University is the world's leader in aviation and aerospace education. The University is an independent, non-profit, culturally diverse institution providing quality education and research in aviation, aerospace, engineering and related fields leading to associate's, baccalaureate's, master's and doctoral degrees.

Program Alignment to University Mission

Select all that apply.

- ¹Preparing students for productive careers
- ²Preparing students for leadership roles in service around the world
- ³Technologically enriched environment
- ⁴Emphasize learning through collaboration and teamwork
- ⁵Concern for ethical and responsible behavior
- ⁶Cultivate analytical abilities
- ⁷Cultivate management abilities
- ⁸Develop the professional skills needed for participation in a global community
- ⁹Facilitating the highest standards of academic achievement
- ¹⁰Facilitating knowledge discovery
- ¹¹Providing an interpersonal environment that supports the unique needs of each individual

Standing Requirements

Program Outcomes

BS Software Engineering Outcome Set

Outcome

Outcome	Mapping
DB_BSSE_PO_a An ability to apply knowledge of mathematics, science, and engineering	No Mapping
DB_BSSE_PO_b An ability to design and conduct experiments, as well as to analyze and interpret data.	No Mapping
DB_BSSE_PO_c An an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	No Mapping
DB_BSSE_PO_d An ability to function on multidisciplinary teams.	No Mapping
DB_BSSE_PO_e An ability to identify, formulate, and solve engineering problems.	No Mapping
DB_BSSE_PO_f An understanding of professional and ethical responsibility.	No Mapping
DB_BSSE_PO_g An ability to communicate effectively.	No Mapping

<p>DB_BSSE_PO_h An the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.</p>	No Mapping
<p>DB_BSSE_PO_i A recognition of the need for, and an ability to engage in life-long learning.</p>	No Mapping
<p>DB_BSSE_PO_j A knowledge of contemporary issues..</p>	No Mapping
<p>DB_BSSE_PO_k An an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.</p>	No Mapping
<p>DB_BSSE_PO_l An understanding of real-time embedded computer systems.</p>	No Mapping

FL - Embry-Riddle General Education Competency Set (Copy 1)

General Education Competencies

Competency	Mapping
<p>Critical Thinking (DB, PC, WW) The student will apply knowledge at the synthesis level to define and solve problems within professional and personal environments.</p>	<p>Embry-Riddle General Education Competency Set: Critical Thinking (DB, PC, WW)</p>
<p>Quantitative Reasoning (DB, PC, WW) The student will demonstrate the use of digitally-enabled technology (including concepts, techniques and tools of computing), mathematics proficiency & analysis techniques to interpret data for the purpose of drawing valid conclusions and solving associated problems.</p>	<p>Embry-Riddle General Education Competency Set: Quantitative Reasoning (DB, PC, WW)</p>

Information Literacy (DB, PC, WW)
The student will conduct meaningful research, including gathering information from primary and secondary sources and incorporating and documenting source material in his or her writing.

Embry-Riddle General Education Competency Set:
Information Literacy (DB, PC, WW)

Communication (DB, PC, WW)
The student will communicate concepts in written, digital and oral forms to present technical and non-technical information.

Embry-Riddle General Education Competency Set:
Communication (DB, PC, WW)

Scientific Literacy (DB, PC, WW)
The student will be able to analyze scientific evidence as it relates to the physical world and its interrelationship with human values and interests.

Embry-Riddle General Education Competency Set:
Scientific Literacy (DB, PC, WW)

Cultural Literacy (DB, PC, WW)
The student will be able to analyze historical events, cultural artifacts, and philosophical concepts.

Embry-Riddle General Education Competency Set:
Cultural Literacy (DB, PC, WW)

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DB_BSSE Indicator Course to Student Outcomes Map

Courses and Activities Mapped to BS Software Engineering Outcome Set

	Outcome											
	DB_BSSE_PO_a An ability to apply knowledge of mathematics, science, and engineering	DB_BSSE_PO_b An ability to design and conduct experiments, as well as to analyze and interpret data.	DB_BSSE_PO_c An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	DB_BSSE_PO_d An ability to function on multidisciplinary teams.	DB_BSSE_PO_e An ability to identify, formulate, and solve engineering problems.	DB_BSSE_PO_f An understanding of professional and ethical responsibility.	DB_BSSE_PO_g An ability to communicate effectively.	DB_BSSE_PO_h An the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	DB_BSSE_PO_i A recognition of the need for, and an ability to engage in life-long learning.	DB_BSSE_PO_j A knowledge of contemporary issues..	DB_BSSE_PO_k An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	DB_BSSE_PO_l An understanding of real-time embedded computer systems.
Courses and Learning Activities												
CEC 320 Microprocessor Systems	P								P			
CEC 322 Microprocessor Systems Laboratory		P					P					
SE 300 Software Engineering Practices		P			P	P		P				
EGR 101 Introduction to Engineering				I		I	I					
CEC 450 Real-Time Systems	P						P					P
CS 315 Data Structures and Analysis of Algorithms			P		P							
CS 420 Operating Systems			P									P
SE 320 Software Construction								P			P	
SE 310 Analysis and Design of Software Systems									P		P	
SE 450/451 Software Team Project	M	M	M	M	M	M	M	M	M	M	M	M
Legend : I Introduced P Practiced M Mastered												

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DB_BSSE Assessment Schedule

Courses and Activities Mapped to BS Software Engineering Outcome Set

Outcome												
DB_BSSE_PO_a An ability to apply knowledge of mathematics, science, and engineering	DB_BSSE_PO_b An ability to design and conduct experiments, as well as to analyze and interpret data.	DB_BSSE_PO_c An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	DB_BSSE_PO_d An ability to function on multidisciplinary teams.	DB_BSSE_PO_e An ability to identify, formulate, and solve engineering problems.	DB_BSSE_PO_f An understanding of professional and ethical responsibility.	DB_BSSE_PO_g An ability to communicate effectively.	DB_BSSE_PO_h An the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	DB_BSSE_PO_i A recognition of the need for, and an ability to engage in life-long learning.	DB_BSSE_PO_j A knowledge of contemporary issues..	DB_BSSE_PO_k An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	DB_BSSE_PO_l An understanding of real-time embedded computer systems.	
Courses and Learning Activities												
2014-2015 2014-2015			✓		✓	✓	✓					
2015-2016 2015-2016								✓	✓	✓	✓	
2016-2017 2016-2017	✓	✓	✓		✓							
2017-2018 2017-2018				✓		✓	✓					
2018-2019 2018-2019								✓	✓	✓	✓	
2019-2020 2019-2020	✓	✓	✓		✓							

Legend : ✓ = Aligned