Standing Requirements

Program Mission Statement

Recognizing its general and special missions in education, Embry-Riddle embraces a general education program. This course of study ensures that students possess the attributes expected of all University graduates. Encouraging intellectual self-reliance and ability, the general education program enables students, regardless of their degree program, to understand the significance of acquiring a broad range of knowledge.

Throughout the general education program, students gain and enhance competence in written and oral communication. They practice reasoning and critical thinking skills and demonstrate computer proficiency. As students engage in this course of study, they familiarize themselves with and investigate ideas and methodologies from several disciplines including the arts and humanities, the social sciences, the natural sciences, and mathematics. The program also helps students recognize interrelationships among the disciplines.

Promoting the appreciation of varied perspectives, the general education program provides intellectual stimulation, ensuring that students are broadly educated. This course of study empowers students to make informed value judgments, to expand their knowledge and understanding of themselves, and to lead meaningful, responsible, and satisfying lives as individuals, professionals, and concerned members of their society and the world.

ERAU University Mission Statement

Our mission is to teach the science, practice and business of aviation and aerospace, preparing students for productive careers[1] and leadership roles in service around the world.[2]

Our technologically enriched, student-centered environment[3] emphasizes learning through collaboration and teamwork,[4] concern for ethical and responsible behavior,[5] cultivation of analytical[6] 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 achievement[9] 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

Program Alignment to University Mission

Select all that apply.

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

Program Outcomes

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

General Education Competencies

Competency	Mapping
Critical Thinking (DB, PC, WW) The student will apply knowledge at the synthesis level to define and solve problems within professional and personal environments.	**Embry-Riddle General Education Competency Set:** Critical Thinking (DB, PC, WW)
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.	**Embry-Riddle General Education Competency Set:** Quantitative Reasoning (DB, PC, WW)
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	**Embry-Riddle General Education Competency Set:** Scientific Literacy (DB, PC, WW)

and its interrelationship with human values and interests.	
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)

PC_Gen_Ed Program Outcomes

Outcome

Outcome	Mapping
PC_GENED_PO_01 Math Apply knowledge of college-level mathematics for defining and solving problems.	No Mapping
PC_GENED_PO_02 Writing Construct effective written documents for technical and non-technical audiences.	No Mapping
PC_GENED_PO_03 Speech Communicate ideas in non-written form, such as through oral presentations and visual media.	No Mapping
PC_GENED_PO_04 Research Conduct and report research accurately and in accordance with professional standards.	No Mapping
PC_GENED_PO_05 Ethics	No Mapping

Recognize the importance of ethical responsibility both professionally and socially.	
PC_GENED_PO_06 Science Identify some of the important results of scientific inquiry in the physical and natural sciences, and use scientific information in critical thinking and decision-making.	No Mapping
PC_GENED_PO_07 Tech Use technology to organize and manipulate information to communicate ideas and concepts.	No Mapping
PC_GENED_PO_08 Economics Apply economic principles to identify, formulate, and solve problems.	No Mapping
PC_GENED_PO_09 Humanities Demonstrate an awareness and understanding of the values communicated through the Humanities.	No Mapping
PC_GENED_PO_10 Social Describe some of the historical and contemporary issues that affect societies.	No Mapping
PC_GENED_PO_11 Complexity Recognize the complexity of human experience from a variety of perspectives, for example, cultural, aesthetic, social, technological, scientific, psychological, philosophical, and historical.	No Mapping

Curriculum Map

Mapping Matrixs

Gen Ed Curriculum Map

[Print View] [PDF]

Alignment Set: PC_Gen_Ed Program Outcomes
Created: 05/06/2014 5:21:05 pm EDT
Last Modified: 05/06/2015 2:08:59 pm EDT

Gen Ed Curriculum Map

Courses and Activities Mapped to PC_Gen_Ed Program Outcomes

Show Outcome Description(s) | Show Course/Activity Detail

Courses and Learning Activities	Outcome										
	PC_GENED_PO_01 Math	PC_GENED_PO_02 Writing	PC_GENED_PO_03 Speech	PC_GENED_PO_04 Research	PC_GENED_PO_05 Ethics	PC_GENED_PO_06 Science	PC_GENED_PO_07 Tech	PC_GENED_PO_08 Economics	PC_GENED_PO_09 Humanities	PC_GENED_PO_10 Social	PC_GENED_PO_11 Complexity
COM 221 Tech Writing		P	I	P	I	I				I	
COM 219 Speech		I	P	P	I				I	P	
MA 241 Calculus (1st year)	P					I					
Library Library				I			I				
ECON 210/211 Economics	P	P						P		P	
PS 150/160 Physics (1st year)	P					P	I				
BIO 104 Biology				I		I					I
HU 330 Ethics		P	P	P	P				M	P	P
AE 425/427 Engineering Capstone	M	M	M	P	I	M	M	I		I	I

Legend: I Introduced P Practiced M Mastered

Last Modified: 05/06/2015 02:08:59 PM

created with taskstream

Assessment Schedule

Mapping Matrixs

Assessment Schedule

[Print View] [PDF]

Alignment Set: PC_Gen_Ed Program Outcomes
Created: 05/06/2014 5:37:25 pm EDT
Last Modified: 06/27/2014 5:44:36 pm EDT

Years vs Program Outcomes

Assessment Schedule
Courses and Activities Mapped to PC_Gen_Ed Program Outcomes

Show Outcome Descriptions Show Course/Activity Detail

	Outcome										
	PC_GENED_PO_01 Math Apply knowledge of college level mathematics for defining and solving problems	PC_GENED_PO_02 Writing Construct effective written documents for technical and non-technical audiences	PC_GENED_PO_03 Speech Communicate ideas in non-written form, such as through oral presentations and visual media	PC_GENED_PO_04 Research Conduct and report research accurately and in accordance with professional standards	PC_GENED_PO_05 Ethics Recognize the importance of ethical responsibility both professionally and socially	PC_GENED_PO_06 Science Identify some of the important results of scientific inquiry in the physical and natural sciences, and use scientific information in critical thinking and decision-making	PC_GENED_PO_07 Tech Use technology to organize and manipulate information to communicate ideas and concepts	PC_GENED_PO_08 Economics Apply economic principles to identify, formulate, and solve problems	PC_GENED_PO_09 Humanities Demonstrate an awareness and understanding of the issues communicated through the Humanities	PC_GENED_PO_10 Social Describe some of the historical and contemporary issues that affect societies	PC_GENED_PO_11 Complexity Recognize the complexity of human experience from a variety of perspectives for example, cultural, aesthetic, social, technological, scientific, psychological, philosophical, and historical
Courses and Learning Activities											
2014-15 Assessment Cycle	✔	✔	✔	✔		✔	✔				
2015-16 Assessment Cycle	✔	✔	✔	✔		✔	✔				
2016-17 Assessment Cycle		✔	✔		✔		✔	✔	✔	✔	✔
2017-18 Assessment Cycle		✔	✔		✔		✔	✔	✔	✔	✔
2018-19 Assessment Cycle		✔	✔	✔		✔	✔				✔
2019-20 Assessment Cycle		✔	✔	✔		✔	✔				✔

Legend: ✔ = Aligned

Last Modified: 06/27/2014 05:44:36 PM

created with taskstream

Additional Information (Optional)

- Gen Ed program outcomes were developed with input from the University Gen Ed Committee, and are similar across all three campuses.
- We assess courses two years in a row, so that we can immediately track the results of changes implemented based upon data/results from the first year.
- Due to unexpected staffing changes, assessment plans are sometimes (often?) developed in the late summer/early fall. It also makes sense to develop assessment plans at the same time one is preparing to teach a course.
- The Prescott Gen Ed committee coordinates and provides guidance for Gen Ed assessment, but leaves the actual details of assessment to individual faculty.

2014-2015 Assessment Cycle

Contact Information

Form: Contact Information

Please fill out the form with the information of the person responsible for the assessment plan.

Contact Name

First	Last
Edward	Poon

Email

poon3de@erau.edu

Phone Number

928-777-3752

Assessment Plan

Measures

PC_Gen_Ed Program Outcomes

Outcome

Outcome: PC_GENED_PO_01 Math

Apply knowledge of college-level mathematics for defining and solving problems.

Measure: Selected Questions from MA 241 Final Exam

Course level; Direct - Exam

Details/Description:	Selected questions from the MA 241 final exam will be graded to assess basic quantitative skills (concerning

	limits) in mathematics. All students in five sections of MA 241 will participate.
Criterion for Success:	At least 70% of the students will score above 70% on the selected questions.
Timeframe of Data Collection:	Fall 2014
Key/Responsible Personnel:	Professors Jacobs and Wilson

Measure: Selected Questions from MA 241 Final Exam

Course level; Direct - Exam

Details/Description:	Selected questions from the MA 241 final exam will be graded to assess basic quantitative skills (concerning integrals) in mathematics. All students in five sections of MA 241 will participate.
Criterion for Success:	At least 70% of the students will score above 70% on the selected questions.
Timeframe of Data Collection:	Fall 2014
Key/Responsible Personnel:	Professors Jacobs and Wilson

Measure: Selected Questions from MA 241 Final Exam

Course level; Direct - Exam

Details/Description:	Selected questions from the MA 241 final exam will be graded to assess basic quantitative skills (concerning derivatives) in mathematics. All students in five sections of MA 241 will participate.
Criterion for Success:	At least 70% of the students will score above 70% on the selected questions.
Timeframe of Data Collection:	Fall 2014
Key/Responsible Personnel:	Professors Jacobs and Wilson

Outcome: PC_GENED_PO_02 Writing

Construct effective written documents for technical and non-technical audiences.

Measure: Comparison of writing samples

Course level; Direct - Student Artifact

Details/Description:	Pre- and post-course writing samples from selected sections of COM 221 and the engineering design capstone courses will be compared.
Criterion for Success:	On the post-test students will score an aggregate mean of 70%, furthermore students will show a significant improvement from pre- to post-measures of at least 10% of the mean aggregate score.
Timeframe of Data Collection:	Fall 2014 and Spring 2015
Key/Responsible Personnel:	To be determined.

Outcome: PC_GENED_PO_03 Speech

Communicate ideas in non-written form, such as through oral presentations and visual media.

Measure: Capstone course/senior design project

Course level; Direct - Student Artifact

Details/Description:	Students enrolled in all AE/ME Engineering Capstone courses will be assessed on their final capstone presentations. These Engineering Capstone briefing assessments will use as instrument developed by teams of HU/COM and AE faculty over the past 9 years. This instrument provides a discreet item analysis of critical oral presentation elements (e.g., pacing, volume, eye contact, engagement, fillers, appropriate register, appropriate vocabulary, good teamwork, question-and-answer skills). Student scores are used for general education assessment, ABET assessment, and a portion of each student's final course grade.

Criterion for Success:	All students in all sections of AE/ME capstone in each semester will have their final briefing scores aggregated; students will score an aggregate mean of 75% in Fall 2014 and 75% in Spring 2015.
Timeframe of Data Collection:	Fall 2014 and Spring 2015
Key/Responsible Personnel:	HU/COM and AE/ME faculty teaching Engineering Capstone courses in Fall 2014 and Spring 2015 will assess all students in all sections of AE/ME capstone.

Measure: Self-evaluation of speaking skills

Course level; Direct - Other

Details/Description:	Students enrolled in COM 219 will demonstrate effective evaluation of their own speaking skills as exhibited through self-evaluations of speeches, online quizzes, and course evaluations.
Criterion for Success:	Students enrolled in COM 219: Speech will demonstrate effective evaluation of their own speaking skills as exhibited through self-evaluations of speeches, online quizzes, and course evaluations. Specifically, the mean difference between student self-reports and instructor evaluations will be no more than 10%.
Timeframe of Data Collection:	Fall 2014 and Spring 2015
Key/Responsible Personnel:	To be determined.

Outcome: PC_GENED_PO_04 Research

Conduct and report research accurately and in accordance with professional standards.

Measure: Selected Questions from BIO 104 Final Exam

Course level; Direct - Exam

Details/Description:	The ERAU Biology component of general education requires students to “conduct and report research accurately and in accordance with professional standards". In particular, an objective for BIO 104 is to get students familiar with where to find valid scientific information for research and the proper technical format for a research project/paper. This will be addressed with the assigned research projects. Students in BIO 104 will show improvement in knowledge of where to obtain valid scientific information for research and knowledge of the scientific database system at ERAU Hazy Library. Three questions will be added to the final exam on sources for valid scientific information for research purposes. Questions will be on the final exam for spring 2015, used as the baseline scores. The same questions in fall 2015 will be measured, with a goal of a 3% increase in average student scores.
Criterion for Success:	Average student scores in BIO 104 will increase 3% or more from spring 2015 to fall 2015.
Timeframe of Data Collection:	Spring 2015 - Fall 2015
Key/Responsible Personnel:	Dr. Hillary Eaton

Outcome: PC_GENED_PO_06 Science

Identify some of the important results of scientific inquiry in the physical and natural sciences, and use scientific information in critical thinking and decision-making.

Measure: Selected Questions from BIO 104 Final Exam

Course level; Direct - Exam

Details/Description:	The ERAU Biology component of general education requires students “to identify some of the important results of scientific inquiry in the natural sciences, and to use scientific information in critical thinking and decision making.” General Education Program outcomes also list describing contemporary issues and recognizing the complexity of human experience. This

	includes technological, scientific, and social perspectives. BIO 104 addresses these areas through a comprehensive biology unit with lectures from 18 chapters of a primary textbook. Supplemental laboratory exercises are also used to provide active experience with the concepts covered in lecture. These chapters are tested through interactive and written quizzes, three exams, two research projects, and a cumulative final exam. Students' knowledge of important scientific discoveries and their critical-thinking ability will be two areas of improvement and measurement for this project. The BIO 104 final exam has 15 multiple choice questions from the scientific discovery component of the course, and a mixture of 15 multiple choice, short answer and essay questions from the critical thinking component of the course. Questions on these components of the final exam for spring 2015 will be used as baseline scores, then fall 2015 scores will be measured, with a goal of 3% increase in average student scores.
Criterion for Success:	Average student scores in BIO 104 will increase 3% or more from spring 2015 to fall 2015.
Timeframe of Data Collection:	Spring 2015 - Fall 2015
Key/Responsible Personnel:	Dr. Hillary Eaton

Additional/Ad-hoc Program Improvements (Optional)

Attachments