

Unit:    User Name:

## Assessment Plan 2008-2009

Unit: General Education, DB

Plan Period: 2008-2009

### Step 1: Expanded Statement of Institutional Purpose

[Link to University Mission Statement](#)[Unit Mission Statement](#)

### Step 2-5: Outcomes, Measurement Approaches, Assessment Results, Use of Results

[Apply Economic Principles](#)[Apply Mathematical Knowledge](#)[Conduct and Report Research](#)[Construct Effective Written Documents](#)[Demonstrate an Understanding of Values in the Humanities](#)[Understand the Important Results of Scientific Inquiry](#)[Use Technology to Organize and Manipulate Information](#)

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## Link to University Mission Statement (Step 1)

**University Mission Statement** Embry-Riddle Aeronautical University is an independent, nonsectarian, non-profit, coeducational university with a history dating back to the early days of aviation. The university serves culturally diverse students motivated toward careers in aviation and aerospace. Residential campuses in Daytona Beach, Florida, and Prescott, Arizona, provide education in a traditional setting, while an extensive network of learning centers throughout the United States and abroad serves civilian and military working adults through ERAU-Worldwide. It is the purpose of Embry-Riddle to provide a comprehensive education to prepare graduates for productive careers and responsible citizenship with special emphasis on the needs of aviation, aerospace, engineering and related fields. To achieve this purpose, the university is dedicated to the following:

- To offer undergraduate and graduate degree programs that prepare students for immediate productivity and career growth while providing a broad-based education with emphasis on communication and analytical skills.
- To develop mature, responsible graduates capable of examining, evaluating and appreciating the economic, political, cultural, moral and technological aspects of humankind and society, and to foster a better understanding of the workings of the free enterprise system and its social and economic benefits, and of the profit motive, as vital forces to the potential of individuals and groups.

[Back to Top Menu](#)

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## Unit Mission Statement (Step 1)

### Unit Mission Statement

The General Education requirements are intended to help students lead meaningful, responsible lives in a complex democratic society. To be able to do this, graduates must possess the literacy skills necessary to give, receive, and interpret information effectively. They must also possess the inquiry skills necessary to understand, evaluate and synthesize information for the purpose of solving problems and making appropriate decisions. To accomplish these goals,

students must complete courses in the physical and/or biological sciences, humanities, social sciences, writing and speaking skills, mathematics and computing disciplines, and multicultural studies.

[Back to Top Menu](#)

## Step 2-5: Outcomes, Measurement Approaches, Assessment Results, Use of Results

<b>Step 2</b>	<p><b>Outcome Title</b> Apply Economic Principles</p> <p><b>Outcome Statement</b> Apply economic principles to identify, formulate, and solve problems.</p>
<b>Step 3</b>	<p><b><u>Measurement Approach 1</u></b></p> <p><b>Means of Assessment</b></p> <p><input checked="" type="radio"/> Other Pre- Post Test for EC 200 An Economic Survey</p> <p><b>Further Description:</b></p> <p><b>Timeframe of Data Collection</b> Spring 2009</p> <p><b>Participants and Roles</b> EC 200: An introduction to macro and microeconomic principles, problems, and polices. Course Monitor will randomly select 30 students from the sections of the course offered.</p> <p><b>Other Details</b> A pretest at the beginning of the term establishes student knowledge in basic economic principles. A post-test will illustrate enhanced knowledge in these principles. The course monitor will convene economics faculty to discuss student performance in the pre- and post-tests, identifying principles students found most troublesome.</p> <p><b>Criterion for Success</b> The average gain between the pre- and post- test will be at the 80%.</p> <p><b><u>Measurement Approach 2</u></b></p> <p><b>Means of Assessment</b></p> <p><input checked="" type="radio"/> Other Student Survey for EC 200 An Economic Survey</p> <p><b>Further Description:</b></p> <p><b>Timeframe of Data Collection</b> Spring 2009</p> <p><b>Participants and Roles</b> The course monitor will randomly select 30 student surveys from all sections of the course offered for analysis.</p> <p><b>Other Details</b></p> <p><b>Criterion for Success</b> Eighty percent of students surveyed will agree that the course provided necessary skills.</p>

Step 4	<p><b>Criterion for Success #1:</b> The average gain between the pre- and post- test will be at the 80%.</p> <p><b>Results #1:</b> The knowledge gain based on the average of the correct answers in four EC200 examined sections was as follows: 39%, 42%, 51% and 57% (gain on average in all section 47%).</p> <p><b>Attached Result Files #1:</b> <a href="#">EC 200 An Economic Survey Gen Ed Assessment Report</a></p> <p><b>Criterion for Success #2:</b> Eighty percent of students surveyed will agree that the course provided necessary skills.</p> <p><b>Results #2:</b></p>
Step 5	<p><b>Have assessment results been used to make improvements?</b></p> <p><input checked="" type="radio"/> No</p> <p><b>Do assessment results indicate any critical improvements that must be made in the next fiscal year?</b></p> <p><input checked="" type="radio"/> No</p>

[Back to Top Menu](#)

Step 2	<p><b>Outcome Title</b> Apply Mathematical Knowledge</p> <p><b>Outcome Statement</b> 1. Apply knowledge of college-level mathematics for defining and solving problems.</p>
Step 3	<p><b>Measurement Approach 1</b></p> <p><b>Means of Assessment</b></p> <p><input checked="" type="radio"/> Other Pre- and Post Tests for MA 111 and MA 241</p> <p><b>Further Description:</b></p> <p><b>Timeframe of Data Collection</b> Spring 2009</p> <p><b>Participants and Roles</b> MA 111 is a pre-calculus course designed for aviation students and MA 241 is a mathematics course focused on graphs and functions. The courses are assessed by course monitors who will randomly select 30 students sections of each course for evaluation. Appropriate placement is established via an on-line pretest, which provides threshold competencies for a variety of courses, including MA 111. The course monitor administers a common final and conducts an item analysis at the end of each term to determine if students have demonstrated competency in mathematical principles addressed.</p> <p><b>Other Details</b></p> <p><b>Criterion for Success</b> 75% of randomly selected exams will indicate that students have correctly solved 75% of the items.</p>
	<p><b>Criterion for Success #1:</b></p>

Step 4	<p>75% of randomly selected exams will indicate that students have correctly solved 75% of the items.</p> <p><b>Results #1:</b></p> <p>MA 111 College Math for Aviation Assessment 1: 79.31% of randomly selected students enrolled in MA 111 during Fall 2008 correctly answered items on the common final exam that tested their ability to solve equations, transpose formulas, and solve verbal problems that require the use of linear and quadratic equations. In Spring 2009, 78.05% of randomly selected MA 111 students correctly answered similar test items. As these data reveal, a sufficient percentage of students correctly answered these test items, based upon the criterion of success delineated in the Assessment Plan. Assessment 2: 63.79% of randomly selected students enrolled in MA 111 during Fall 2008 correctly answered items on the common final exam that tested their ability to use the six trigonometric functions to solve right triangle problems, resolve vectors into rectangular components, and solve force and displacement problems using vectors. In Spring 2009, 78.33% of randomly selected MA 111 students correctly answered similar test items. As these data reveal, an insufficient percentage of students correctly answered these test items in Fall 2008, based upon the criterion of success delineated in the Assessment Plan. A sufficient percentage of students correctly answered these test items in Spring 2009, however. MA 241 Calculus and Analytical Geometry The criterion of success for this assessment, as specified in the initial plan, assumed that at least 65% of MA 241 students would be able to answer selected test items correctly. As Table 1 demonstrates, the overall success rate on these test items was about 70%, consistent with original expectations.</p> <p><b>Attached Result Files #1:</b></p> <p><a href="#">MA 111 College Math for Aviation Gen Ed Assessment Plan</a></p> <p><a href="#">MA 241 Calculus and Analytical Geometry Gen Ed Assessment Plan</a></p>
Step 5	<p><b>Have assessment results been used to make improvements?</b></p> <p><input checked="" type="radio"/> Yes</p> <p><input checked="" type="checkbox"/> Other (specify) Course Monitor oversight will be modified.</p> <p><b>Description:</b></p> <p>The course monitor of MA 111 will • Review the course outline to validate the importance of these competencies • Review the means by which these competencies are taught in the course • Urge faculty to teach these concepts for an additional period deemed sufficient • Urge faculty to review these concepts more carefully prior to the final exam The existing course structure for MA 241 created by the department, in consultation with other related programs, has historically provided students with the basic mathematical skills and knowledge required by the various baccalaureate degree programs at Embry-Riddle.</p> <p><b>Do assessment results indicate any critical improvements that must be made in the next fiscal year?</b></p> <p><input checked="" type="radio"/> No</p>

[Back to Top Menu](#)

Step 2	<p><b>Outcome Title</b></p> <p>Conduct and Report Research</p> <p><b>Outcome Statement</b></p> <p>4. Conduct and report research accurately and in accordance with professional standards.</p>
	<p><b>Measurement Approach 1</b></p> <p><b>Means of Assessment</b></p> <p><input checked="" type="radio"/> Other Portfolio Evaluation for COM 122</p> <p><b>Further Description:</b></p>

Step 3	<p><b>Timeframe of Data Collection</b> Spring 2009</p> <p><b>Participants and Roles</b> The course monitor will convene portfolio readers for one or more calibration sessions, using a sampling of student work, to establish a consensus of how the essays and research paper are to be evaluated. The course monitor will also select a random sampling of student portfolios from several sections of the course, schedule and supervise the portfolio evaluation session, and report the results.</p> <p><b>Other Details</b> <b>NO DATA</b></p> <p><b>Criterion for Success</b> 75% of student portfolios will contain successful essays.</p>
Step 4	<p><b>Criterion for Success #1:</b> 75% of student portfolios will contain successful essays.</p> <p><b>Results #1:</b> Of the 233 students enrolled in Com 122 in Spring 2008, 86.70% demonstrated the ability to “construct effective written documents for technical and non-technical audiences” and to “conduct and report research accurately and in accordance with professional standards.”</p> <p><b>Attached Result Files #1:</b> <a href="#">COM 122 English Composition and Literature</a></p>
Step 5	<p><b>Have assessment results been used to make improvements?</b></p> <p><input type="radio"/> Yes</p> <p><input checked="" type="checkbox"/> Other (specify) Assessment procedure used this year will be ongoing.</p> <p><b>Description:</b> Based upon the results of this measurement approach, the Course Monitor recommends no new actions. However, the Course Monitor will continue to do the following: • Conduct Portfolio Assessment • Conduct calibration sessions regarding instructors’ assessment of student papers. • Conduct calibration sessions regarding jury members’ assessment of student portfolios that are submitted for Portfolio Assessment.</p> <p><b>Do assessment results indicate any critical improvements that must be made in the next fiscal year?</b></p> <p><input type="radio"/> No</p>

[Back to Top Menu](#)

Step 2	<p><b>Outcome Title</b> Construct Effective Written Documents</p> <p><b>Outcome Statement</b> General Education Learning Outcome: 2. Construct effective written documents for technical and non-technical audiences.</p>
	<p><b>Measurement Approach 1</b></p> <p><b>Means of Assessment</b></p> <p><input type="radio"/> Other Portfolio Evaluation for COM 122</p>

<b>Step 3</b>	<p><b>Further Description:</b></p> <p><b>Timeframe of Data Collection</b> Spring 2009</p> <p><b>Participants and Roles</b> The course monitor will convene portfolio readers for one or more calibration sessions, using a sampling of student work, to establish a consensus of how the essays and research paper are to be evaluated. The course monitor will also select a random sampling of student portfolios from several sections of the course, schedule and supervise the portfolio evaluation session, and report the results. Composition faculty familiar with Composition and Literature course goals will serve as COM 122 portfolio readers. After participating in reading calibration sessions, portfolio readers will employ a rubric to determine if students have composed effective essays and a sufficiently developed research paper that appropriately cites primary and secondary sources.</p> <p><b>Other Details</b> <b>NO DATA</b></p> <p><b>Criterion for Success</b> 75% of selected student portfolios will contain effective essays and a sufficiently developed research paper with appropriate citations.</p>
<b>Step 4</b>	<p><b>Criterion for Success #1:</b> 75% of selected student portfolios will contain effective essays and a sufficiently developed research paper with appropriate citations.</p> <p><b>Results #1:</b> Of the 233 students enrolled in Com 122 in Spring 2008, 86.70% demonstrated the ability to “construct effective written documents for technical and non-technical audiences” and to “conduct and report research accurately and in accordance with professional standards.”</p> <p><b>Attached Result Files #1:</b> <a href="#">COM 122 English Composition and Literature</a></p>
<b>Step 5</b>	<p><b>Have assessment results been used to make improvements?</b></p> <p><input checked="" type="radio"/> <b>Yes</b></p> <p><input checked="" type="checkbox"/> Other (specify) The assessment approach used will be ongoing.</p> <p><b>Description:</b> Based upon the results of this measurement approach, the Course Monitor recommends no new actions. However, the Course Monitor will continue to do the following: • Conduct Portfolio Assessment • Conduct calibration sessions regarding instructors’ assessment of student papers. • Conduct calibration sessions regarding jury members’ assessment of student portfolios that are submitted for Portfolio Assessment.</p> <p><b>Do assessment results indicate any critical improvements that must be made in the next fiscal year?</b></p> <p><input checked="" type="radio"/> <b>No</b></p>

[Back to Top Menu](#)

<b>Step 2</b>	<p><b>Outcome Title</b> Demonstrate an Understanding of Values in the Humanities</p> <p><b>Outcome Statement</b> 9. Demonstrate an understanding of the values communicated through the humanities.</p>
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Step 3	<p><b>Measurement Approach 1</b></p> <p><b>Means of Assessment</b></p> <p><input checked="" type="radio"/> Other</p> <p>Student Survey HU 142</p> <p><b>Further Description:</b></p> <p><b>Timeframe of Data Collection</b></p> <p>Spring 2009</p> <p><b>Participants and Roles</b></p> <p>HU 142 is a continuation of COM 122 with an emphasis on a survey of literature. Faculty members teaching HU 142 will ask students enrolled in the course to respond to a survey administered at the end of the term. Developed by a representative group of Studies in Literature faculty, the survey will be designed to discern if students perceive that course texts and discussions have increased their awareness and understanding of values implicit in the cultures portrayed within literary texts assigned in the course. Course monitors will randomly select 30 student surveys for analysis.</p> <p><b>Other Details</b></p> <p><b>Criterion for Success</b></p> <p>80% of surveyed students will report that reading the required course texts and participating in discussions have increased their awareness and understanding of values implicit in those works.</p>
Step 4	<p><b>Criterion for Success #1:</b></p> <p>80% of surveyed students will report that reading the required course texts and participating in discussions have increased their awareness and understanding of values implicit in those works.</p> <p><b>Results #1:</b></p> <p>80% of HU 142 students would report that course materials, discussions, and class assignments offered sufficient opportunities to learn about, explore, and examine how literary themes are expressed in a variety of ways</p> <p><b>Attached Result Files #1:</b></p> <p><a href="#">HU 142 Studies in Literature Gen Ed Assessment Report</a></p>
Step 5	<p><b>Have assessment results been used to make improvements?</b></p> <p><input checked="" type="radio"/> Yes</p> <p><input checked="" type="checkbox"/> Curriculum modifications</p> <p><b>Description:</b></p> <p>The HU 142 Course Monitor, in conjunction with faculty who teach the course, developed a rubric and portfolio review to assess if student essays and/or research papers indicate the author's understanding of the important themes communicated through the humanities. In the portfolio review, it was apparent that not all students were offered sufficient opportunities through the writing required in their class assignments to demonstrate an understanding of the important themes communicated through the humanities. As a result, HU 142 faculty will meet to discuss ways of shaping writing assignments that emphasize the literary themes and not the technical aspects of literary craftsmanship.</p> <p><b>Do assessment results indicate any critical improvements that must be made in the next fiscal year?</b></p> <p><input checked="" type="radio"/> Yes - planned improvements can be made without new funds</p> <p><b>Description:</b></p>

<p><b>Step 2</b></p>	<p><b>Outcome Title</b> Understand the Important Results of Scientific Inquiry</p> <p><b>Outcome Statement</b> 6. Understand some of the important results of scientific inquiry in the natural and life sciences, and use scientific information in critical thinking and decision-making.</p>
<p><b>Step 3</b></p>	<p><b>Measurement Approach 1</b></p> <p><b>Means of Assessment</b></p> <p><input checked="" type="radio"/> Other Pre- and Post Tests for PS 103 and PS 150</p> <p><b>Further Description:</b></p> <p><b>Timeframe of Data Collection</b> Spring 2009</p> <p><b>Participants and Roles</b> PS 103 is a course in elementary physics, and PS 150 is a course in Vectors and scalar quantities, geometrical optics, kinematics, Newton's Laws of Motion, etc. An on-line pre-test will be administered to all students taking PS 103 and PS 150 at the beginning of each fall and spring semester. This will establish a baseline of existing physics knowledge for these physics students. An on-line post-test will be administered to all students taking PS 103 and PS 150 at the end of the fall and spring semester, which will assess the student's knowledge gain, by taking the course. Course Monitors will randomly select 30 students from sections of PS 103 and 30 students from sections of PS 150 for analysis. The physics faculty will examine the results of these pre- and post-tests and develop strategies to enhance the teaching of the identified physics principles that students found most troublesome.</p> <p><b>Other Details</b> <b>NO DATA</b></p> <p><b>Criterion for Success</b> The average gain in physics knowledge between the pre-test score and the post-test scores will be at the 80% level.</p>
<p><b>Step 4</b></p>	<p><b>Criterion for Success #1:</b> The average gain in physics knowledge between the pre-test score and the post-test scores will be at the 80% level.</p> <p><b>Results #1:</b> PS 103 Technical Physics The maximum score out of 10 improved by 22%. The minimum score out of 10 improved by 100%. The median and mean both improved by 25%. The mode improved by 75%. PS 150 Physics for Engineers Results indicate that first year student enrolling in PS150 may lack the background and skills necessary needed of college level mathematics and specifically its application in defining and solving problems in physics. Similarly student's background in scientific inquiry in physics and use its use in critical thinking may be deficient for incoming students. Although students who have taken PS150 make sufficient progress with respect to outcome #6, more work needs to be done to help students achieve outcome#1.</p> <p><b>Attached Result Files #1:</b> <a href="#">PS 103 Technical Physics</a> <a href="#">PS 150 Physics for Engineers</a></p>
	<p><b>Have assessment results been used to make improvements?</b></p> <p><input checked="" type="radio"/> Yes</p> <p><input checked="" type="checkbox"/> Curriculum modifications</p> <p><b>Description:</b></p>



**Step 5**

For PS 150, students' background in scientific inquiry in physics and its use in critical thinking may be deficient for incoming students. Developing a more unified approach to the mathematics and physics science curriculum may help in addressing this problem.

**Do assessment results indicate any critical improvements that must be made in the next fiscal year?**

No

[Back to Top Menu](#)

**Step 2****Outcome Title**

Use Technology to Organize and Manipulate Information

**Outcome Statement**

7. Use technology to organize and manipulate information to communicate ideas and concepts.

**Measurement Approach 1****Means of Assessment**

Other

Evaluation of Student Work in IT 109

**Further Description:****Timeframe of Data Collection**

Spring 2009

**Participants and Roles**

IT 109 is a hands-on overview of the most popular computer applications. Students will select a computer technology based topic for a detailed statistical and textual analysis using computer software and web access. Completed work in each of the five stages of the project will be submitted through Blackboard (except for an oral presentation) and will be independently assigned value points (0 to 5) by the instructor and by one other "guest professor." Primary and Guest faculty members will independently review randomly selected student project assignments and assign value points. Those scores will later be compared and totaled for a representative overall course success "grade" in addition to a norming of the selected student ratings. This would be similar to a portfolio review system. The course monitor will select a random sampling of students in each class being examined (2 sections of each course). Guest faculty, teachers in other sections of the courses not used in the outcomes analysis, will be invited to review the randomly selected student projects and assign value points to them, based on the standard course grading criteria.

**Other Details****Criterion for Success**

70% of students in each of the four examined classes will produce acceptable (average or above) final reports and corresponding subsections of the project.

**Step 3****Measurement Approach 2****Means of Assessment**

Other

Graduating students' Survey for IT 109

**Further Description:****Timeframe of Data Collection**

Spring 2009

**Participants and Roles**

Responses on the following question asked of seniors during the week preceding graduation will be used to

determine if the courses that address computer literacy have prepared graduates for technological communication in the world of work: "To what extent has your experience at ERAU helped you to access, analyze, and communicate information using multiple means/media?" Criterion for success (Indirect) 70% or more of graduates will answer "Very Much" or "Quite a Bit" (Indirect) 20% or fewer graduates will answer "Very Little" or "Not at All"

**Other Details**

**Criterion for Success**

Criterion for success: 1. 70% or more of graduates will answer "Very Much" or "Quite a Bit." 2. 20% or fewer graduates will answer "Very Little" or "Not at All."

**Step 4**

**Criterion for Success #1:**

70% of students in each of the four examined classes will produce acceptable (average or above) final reports and corresponding subsections of the project.

**Results #1:**

Results found that 10% of student projects were rated as excellent; 37% were considered above average; 23% were identified as good; and 17% were satisfactory. Thirteen percent of the sample of was considered unsatisfactory. Overall, 87% of the projects were evaluated as excellent to satisfactory.

**Attached Result Files #1:**

[IT 109 Introduction to Computers and Applications Gen Ed Assessment Report](#)

**Criterion for Success #2:**

Criterion for success: 1. 70% or more of graduates will answer "Very Much" or "Quite a Bit." 2. 20% or fewer graduates will answer "Very Little" or "Not at All."

**Results #2:**

The general student populations responded that 47% agreed that ERAU courses had contributed to the development of their basic software skills.

**Step 5**

**Have assessment results been used to make improvements?**

**Yes**



Other (specify)

Revise assessment methods

**Description:**

A better measure is needed to determine criteria for success that excludes the College of Engineering. A class survey may be more appropriate and a better measure of success or failure.

**Do assessment results indicate any critical improvements that must be made in the next fiscal year?**

**No**

[Back to Top Menu](#)

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