Unit: General Education, WW

Plan Period: 2005-2006

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

Quantitative and Mathematical Competence
Communication Competence
Computer Software Competence
Non-Technical Writing Skills Competence

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 emphasize academic excellence in the teaching of all courses and programs; to recruit and develop excellent faculty and staff; and to pursue research and creative activities that maintain and extend knowledge in aviation, aerospace and related disciplines.
- 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.
- To promote ethical and responsible behavior among its students and graduates in the local, national and international aviation and aerospace communities and in the community at large.
- To develop and effectively deliver educational programs for the adult student and professional at the undergraduate and graduate levels, including off-campus degree programs, short courses, distance learning, non-credit programs, seminars, workshops and conferences.

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Unit Mission Statement (Step 1)

Unit Mission Statement

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Recognizing its general and special missions in education, Embry-Riddle Aeronautical University 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. These include the arts and humanities, the social sciences, and 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.

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

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<td>Quantitative and Mathematical Competence</td>
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**Outcome Statement**
Embry-Riddle Aeronautical University students are adequately prepared in quantitative and mathematical skills.

**Measurement Approach 1**

**Means of Assessment**
- ERAU Alumni Survey [(Details)]

**Further Description:**
- **Timeframe of Data Collection**
- **Participants and Roles**
- **Other Details**

**Criterion for Success**
Eighty percent of Embry-Riddle graduates will rate their general quantitative and mathematical preparation as good or very good on the ERAU Alumni Feedback Survey.

**Measurement Approach 2**

**Means of Assessment**
- ERAU Employer Feedback Survey [(Details)]

**Further Description:**
- **Timeframe of Data Collection**
- **Participants and Roles**
Other Details

Criterion for Success
Eighty percent of employers will rate Embry-Riddle graduates' general quantitative and mathematical competence as good or very good on the ERAU Employer Feedback Survey.

Measurement Approach 3
Means of Assessment
- End of course evaluations

Further Description:
Timeframe of Data Collection
Participants and Roles

Other Details

Criterion for Success
Eighty percent of students will rate the overvalue of their Mathematics course as either Good or Excellent. Data to measure this criterion will be derived from Statement 13 of the Student End of Course Evaluation.

Criterion for Success #1:
Eighty percent of Embry-Riddle graduates will rate their general quantitative and mathematical preparation as good or very good on the ERAU Alumni Feedback Survey.

Results #1:
Approximately 71% of 2004 alumni surveyed rated their general quantitative and mathematical preparation as excellent or good. Problem solving is related to quantitative skills and 81% of the alumni surveyed rated their preparation in this area as excellent or good. The source, Alumni Survey: Class of 2004, One Year Later, is available at http://irweb.erau.edu/irstudies/alumni/2005/alumni_2005_title.htm

Criterion for Success #2:
Eighty percent of employers will rate Embry-Riddle graduates' general quantitative and mathematical competence as good or very good on the ERAU Employer Feedback Survey.

Results #2:
Of the employers surveyed 70% rated ERAU graduates (classes of 2001-2003) as excellent or good with regard to competence in quantitative and mathematical skills. This compares to their 62% rating for graduates from other institutions. Ability to solve problems is related to quantitative skills and the employers surveyed rated 76% of ERAU graduates as excellent or good in that area. Graduates from other institutions were rated excellent or good 58% of the time. The source of this information is the Employer Feedback Survey: Classes of 2001-2003 which is available at http://irweb.erau.edu/irstudies/efs/EFS_interimReport.htm

Criterion for Success #3:
Eighty percent of students will rate the overvalue of their Mathematics course as either Good or Excellent. Data to measure this criterion will be derived from Statement 13 of the Student End of Course Evaluation.

Results #3:
Approximately 87% of ERAU students surveyed rated the overall value of their mathematics courses as either excellent or good. The source of this information is the ERAU WW Student Survey Discipline Summary Sheet for Mathematics.

Have assessment results been used to make improvements?

...erau.edu:7778/.../ERPP_PROD.mod_...
New on-line mathematics assessment for new students was instituted.

Description:
Because of the need for calculus in the new pre-engineering program, a sequence of four calculus courses (MATH 250, 251, 252, 253) was developed. The course outlines were constructed and faculty at some centers have been cleared to teach the courses. Work is progressing in developing the calculus courses for on-line presentation via the Department of Distance Learning. MATH 145, College Algebra and Trigonometry, was deleted from the Worldwide curriculum because it was a five credit hour course and not suitable for delivery in a nine-week term. The two courses, MATH 140, College Algebra, and MATH 142, Trigonometry, contain the same material and provide a more pedagogically sound way of presenting the subject matter. Students new to ERAU who have not had any intermediate algebra course within the past ten years will be required to take the new on-line mathematics assessment test to estimate their level of knowledge in that subject area. If the score on the exam indicates a deficiency, the student will be required to correct that deficiency before being allowed to take college level mathematics courses or courses that have college level mathematics as a prerequisite. An intermediate level algebra course is provided to assist the student in improving mathematics knowledge and skills.

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

Yes - planned improvements can be made without new funds

Description:
The new calculus courses, MATH 250, 251, 252, and 253, will be developed for on-line delivery via the Department of Distance Learning. Plans are underway to begin revision of all on-line mathematics courses to improve methods of delivery and to take advantage of new developments in technology.

Outcome Title
Communication Competence

Outcome Statement
Embry-Riddle Aeronautical University graduates are adequately prepared in communication (writing and speaking) skills.

Measurement Approach 1

Means of Assessment
ERAU Alumni Survey (Details)

Further Description:
Timeframe of Data Collection
Participants and Roles
Other Details

Criterion for Success
Eighty-five percent of Embry-Riddle Aeronautical Graduates will rate their communication preparation (writing and speaking) as good or very good on the ERAU Alumni Feedback Survey.
Step 3

Measurement Approach 2
Means of Assessment
- ERAU Employer Feedback Survey (Details)

Further Description:
- Timeframe of Data Collection
- Participants and Roles
- Other Details

Criterion for Success
Eighty percent of employers will rate Embry-Riddle Aeronautical graduates' communication competence (writing and speaking) as good or very good on the ERAU Employer Feedback Survey.

Measurement Approach 3
Means of Assessment
- End of course evaluations

Further Description:
- Timeframe of Data Collection
- Participants and Roles
- Other Details

Criterion for Success
Eighty percent of the students will rate the value of their Communication courses as either Good or Excellent. Data to measure this criterion will be derived from Statement 13 of the Student End of Course Evaluation.

Criterion for Success #1:
Eighty-five percent of Embry-Riddle Aeronautical Graduates will rate their communication preparation (writing and speaking) as good or very good on the ERAU Alumni Feedback Survey.

Results #1:
79% of respondents to the Alumni Class of 2004 survey rated their technical writing skills preparation as good or excellent. 74% of respondents rated their speaking preparation as good or excellent. This produces an average excellent or good rating of 76.5% for communication preparation.

Criterion for Success #2:
Eighty percent of employers will rate Embry-Riddle Aeronautical graduates' communication competence (writing and speaking) as good or very good on the ERAU Employer Feedback Survey.

Results #2:
85.7% of employers responding to the Employer Feedback survey for the class of 2003 rated graduates' technical writing competence as excellent or good. 89.6% of respondents rated graduates' speaking competence as excellent or good. This produces an average excellent or good rating of 87.6% for communication competence.

Criterion for Success #3:
Eighty percent of the students will rate the value of their Communication courses as either Good or Excellent. Data to measure this criterion will be derived from Statement 13 of the Student End of Course Evaluation. Eighty percent of the students will rate the value of their Communications course as either Good or Excellent. Data to measure this criterion will be derived from Question 13 of the Student End of Course Evaluation.

Results #3:

90% of respondents to end-of-course surveys for English courses rated the overall value of the courses as good or excellent. 90% of respondents to end-of-course surveys for Speech courses rated the overall value of the course as good or excellent. This produces a good or excellent rating of 90% for the value of communication courses.

Have assessment results been used to make improvements?

- Yes
  - Curriculum modifications

Description:
The Technical Writing course is being revised and should be available in the spring of 2007.

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

- Yes - planned improvements can be made without new funds

Description:
It is possible that the speech course may need to be revised/updated to enhance its relevance.

Outcome Title
Computer Software Competence

Outcome Statement
Embry-Riddle Aeronautical University students are adequately prepared in the use in computer software.

Measurement Approach 1
Means of Assessment
- ERAU Alumni Survey (Details)

Further Description:
Timeframe of Data Collection
Participants and Roles
Other Details

Criterion for Success
Eighty percent of Embry-Riddle Aeronautical University graduates will rate their computer software preparation as good or very good on the ERAU Alumni Feedback Survey.

Measurement Approach 2
Means of Assessment
- ERAU Employer Feedback Survey (Details)

Further Description:
Step 3

Timeframe of Data Collection

Participants and Roles

Other Details

Criterion for Success
Eighty percent of employers will rate Embry-Riddle Aeronautical University graduates' computer software competence as good or very good on the ERAU Employee Feedback Survey.

Measurement Approach 3

Means of Assessment
- End of course evaluations

Further Description:
Timeframe of Data Collection

Participants and Roles

Other Details

Criterion for Success
Eighty percent of students will rate the overall value of their Computer courses as either Good or Excellent. Data to measure this criterion will be derived from Statement 13 of the Student End of Course Evaluation.

Step 4

Criterion for Success #1:
Eighty percent of Embry-Riddle Aeronautical University graduates will rate their computer software preparation as good or very good on the ERAU Alumni Feedback Survey.

Results #1:
Approximately 69% of the alumni (Class of 2004) surveyed rated their computer software preparation as excellent of good. The source, Alumni Survey: Class of 2004, is available at http://irweb.erau.edu/irstudies/alumni/2005/alumni_2005_title.htm

Criterion for Success #2:
Eighty percent of employers will rate Embry-Riddle Aeronautical University graduates' computer software competence as good or very good on the ERAU Employee Feedback Survey.

Results #2:
Approximately 85% of employers surveyed rated ERAU graduates (classes of 2001-2003) either excellent or good with regard to computer software competence. The employers rated graduates from other institutions at about 70% on this variable. The source, Employer Feedback Survey: Classes of 2001-2003, is available at http://irweb.erau.edu/irstudies/efs/EFS_interimReport.htm

Criterion for Success #3:
Eighty percent of students will rate the overall value of their Computer courses as either Good or Excellent. Data to measure this criterion will be derived from Statement 13 of the Student End of Course Evaluation.

Results #3:
Approximately 86% of students surveyed rated their computer software courses as either excellent or good. The source of this data was the ERAU WW Student Survey Discipline Summary Report for Computer Science.
### Step 5

<table>
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<tr>
<th>Question</th>
<th>Answer</th>
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<td>Have assessment results been used to make improvements?</td>
<td>No</td>
</tr>
<tr>
<td>Do assessment results indicate any critical improvements that must be made in the next fiscal year?</td>
<td>No</td>
</tr>
</tbody>
</table>

### Step 2

**Outcome Title**
Non-Technical Writing Skills Competence

**Outcome Statement**
Embry-Riddle Aeronautical University students are adequately prepared in non-technical writing skills.

#### Measurement Approach 1

**Means of Assessment**
- ERAU Alumni Survey ([Details](#))

**Further Description:**
- **Timeframe of Data Collection**
- **Participants and Roles**
- **Other Details**

**Criterion for Success**
Eighty percent of Embry-Riddle Aeronautical University graduates will rate their general non-technical writing preparation as good or very good on the ERAU Alumni Feedback Survey.

#### Measurement Approach 2

**Means of Assessment**
- ERAU Employer Feedback Survey ([Details](#))

**Further Description:**
- **Timeframe of Data Collection**
- **Participants and Roles**
- **Other Details**

**Criterion for Success**
Eighty percent of employers will rate Embry-Riddle Aeronautical University graduates’ general non-technical writing skills as good or very good on the ERAU Employer Feedback Survey.

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**Criterion for Success #1:**
Eighty percent of Embry-Riddle Aeronautical University graduates will rate their general non-technical writing preparation as good or very good on the ERAU Alumni Feedback Survey.

**Results #1:**
### Step 4

83% of graduates responding to the Alumni survey for the Class of 2004 rated their general non-technical writing preparation as good or excellent.

**Criterion for Success #2:**

Eighty percent of employers will rate Embry-Riddle Aeronautical University graduates’ general non-technical writing skills as good or very good on the ERAU Employer Feedback Survey.

**Results #2:**

86.9% of employers responding to the Employer Feedback survey for the Class of 2003 rated graduates’ non-technical writing competence as good or excellent.

### Step 5

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

- Yes
  - Course(s) added
  - Course(s) deleted
  - Other (specify)

- Criterion pilot

**Description:**

ENGL 122 Composition and Literature was replaced with a new course, ENGL 123 English Composition, which focuses on the writing process and ways to use writing as a tool for critical thinking. A pilot test of the writing proficiency assessment tool, Criterion, is planned for late 2006-early 2007. The results of this assessment will be used to determine whether Criterion can be used to measure the writing proficiency of all incoming students and direct help to those whose writing skills fall short of an acceptable standard. The pilot may also be used to establish a baseline for later comparison as a means of assessing the effectiveness of efforts to improve students’ writing skills.

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

- No