Assessment Plan 2004-2005

Unit: General Education, DB
Plan Period: 2004-2005

Step 1: Expanded Statement of Institutional Purpose

Link to University Mission Statement
University Goals and Objectives
Unit Mission Statement

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

Capstone course faculty evaluation of student communication skills competencies. (2004-05)

Develop political and economic awareness
Mathematics and computational skills will be assessed
Preparation in critical thinking skills
Preparation in oral communication skills
Preparation in technical writing skills

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 extended campus centers throughout the United States and abroad serves civilian and military working adults. 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.

University Goals and Objectives (Step 1)

University Goals and Objectives
Educational Excellence

UNIVERSITY OBJECTIVE: Design academic programs to accommodate the appropriate balance between education in the major or discipline, and life and leadership skills, and maintain a strong general education program in the baccalaureate degree, while providing flexibility to accommodate special interests through electives.
## 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.

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

### Step 2

#### Outcome Title
Capstone course faculty evaluation of student communication skills competencies. (2004-05)

#### Outcome Statement
Students in the capstone courses for all programs will be evaluated by their professor in writing, speaking and critical thinking skills. Seventy-five percent of capstone course students will demonstrate satisfactory levels of competence in report writing, presentation delivery, critical thinking, computational analysis, and socio-economic awareness. (2004-05)

### Step 3

#### Measurement Approach 1

**Means of Assessment**
- Capstone course / senior design project

**Further Description:**

**Timeframe of Data Collection**
At the conclusion of the Spring Term 2004, capstone course faculty will complete a General Education questionnaire for each senior student. The results will be analyzed by a General Education committee.

**Participants and Roles**
Capstone course faculty teaching in each program will give their the completed questionnaires to GenEd Committee members.

**Other Details**
Results of the GenEd evaluations for capstone course students will help to determine necessary changes in the General Education requirements of the University.

**Criterion for Success**
Seventy-five percent of all capstone course students will score at the satisfactory level or higher on the Capstone Course General Education Evaluation Form.

#### Measurement Approach 2

**Means of Assessment**
- Capstone course / senior design project

**Further Description:**
### Criterion for Success

**Criterion for Success #1:**
Seventy-five percent of all capstone course students will score at the satisfactory level or higher on the Capstone Course General Education Evaluation Form.

**Results #1:**
The General Education Evaluation Forms have not been made available for Capstone Course Assessment -- as of September, 2005

**Criterion for Success #2:**

**Results #2:**
Reports from capstone course faculty indicate that overall student performance in the GenEd target areas were above satisfactory; actual GenEd competency testing was not accomplished, so no hard data were available.

### Step 4

**Have assessment results been used to make improvements?**
- Yes
- Pedagogical modifications
- Other (specify)
  - New testing instruments are being developed

**Description:**
A new National Survey of Student Engagement will be administered to graduating seniors in 2006. Capstone course results will be able to be factored out of this survey data -- in terms of general education gains. Faculty teaching capstone courses for each undergraduate academic program will be urged to measure GenEd skills as part of their course learning outcomes.

**Is additional assessment of this outcome required?**
- Yes
- Initial assessment still needs to be completed

**Description:**
Common testing will be administered to graduating seniors in capstone courses and their GenEd skills will be measured and reported.

**Will assessment results be used to support any initiatives in future strategic planning?**
- Yes

**Briefly describe assessment result:**
Curriculum changes will be proposed for capstone courses.

**Classify the results as one of the following:**
- Weakness
**Step 2**

**Outcome Title**
Develop political and economic awareness

**Outcome Statement**
Embry-Riddle Aeronautical University students of the Daytona Beach campus adequately develop political and economic awareness.

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**Step 3**

**Measurement Approach 1**

**Means of Assessment**

Further Description:
- **Timeframe of Data Collection**
  Whenever IR alumni and employer feedback data becomes available.
- **Participants and Roles**
  Jim Cunningham will collect and report data to the rest of the faculty.

**Other Details**

**Criterion for Success**
Eighty percent of Embry-Riddle graduates will rate their preparation to develop political and economic awareness as good, very good, or excellent on their alumni feedback survey with no more than twenty percent indicating their skills in this area were not useful.

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**Step 4**

**Criterion for Success #1:**
Eighty percent of Embry-Riddle graduates will rate their preparation to develop political and economic awareness as good, very good, or excellent on their alumni feedback survey with no more than twenty percent indicating their skills in this area were not useful.

**Results #1:**
Only 28% of Daytona Beach Campus alumni who responded to the most recent survey (made available on Sept 30, 2005) rated their preparation in political and economic awareness as good or excellent. 33% said the preparation was average; 27% thought it was poor; 12% reported it as very poor.

**Criterion for Success #2:**
Eighty percent of employers will rate their Embry-Riddle graduates’ competence to develop political and economic awareness as good, very good, or excellent on their employer feedback surveys.

**Results #2:**
Recent survey results are not available. The IR Full Report is being assembled.

### Step 5

**Have assessment results been used to make improvements?**
- Yes
- Curriculum modifications

**Description:**
Attention in these two areas has been reduced due to credit hour reductions. Renewed emphasis on economic and environmental awareness will follow the capstone course test results.

**Is additional assessment of this outcome required?**
- Yes
- Initial assessment still needs to be completed

**Description:**
Employer satisfaction surveys have yet to be compiled for the graduating class of 2003.

**Will assessment results be used to support any initiatives in future strategic planning?**
- Yes

**Briefly describe assessment result:**
Survey data and capstone test results will increase the focus to be given to these two GenEd areas.

**Classify the results as one of the following:**
- Opportunity

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### Step 2

**Outcome Title**
Mathematics and computational skills will be assessed

**Outcome Statement**
Eighty-percent of alumni and employers of ERAU alumni will rate computational mathematics skills as equal to or higher than the same skills of employees who have graduated from other institutions.

### Step 3

**Measurement Approach 1**

**Means of Assessment**

**Further Description:**

- **Timeframe of Data Collection**
  Within a two year timeframe, alumni will be surveyed in terms of their preparation for computational math skills in the world of work.

- **Participants and Roles**
  IR will collect data from alumni two years after graduation.

- **Other Details**
  NO DATA

**Criterion for Success**
Self-assessment of alumni and employer assessment of ERAU graduates in their employ will rate alumni computational mathematics skills as equal to or higher than comparable employees who graduated from other institutions.
**Step 4**

**Criterion for Success #1:**
Self-assessment of alumni and employer assessment of ERAU graduates in their employ will rate alumni computational mathematics skills as equal to or higher than comparable employees who graduated from other institutions.

**Results #1:**
Forty-nine percent of Daytona Beach Campus alumni rated their computational/mathematics preparation as good; another 11% rated their math preparation as excellent. Only 30% felt that their math preparation at ERAU was poor or very poor.

**Have assessment results been used to make improvements?**
- Yes
  - Curriculum modifications
  - Pedagogical modifications

**Description:**
Initial preparation of first year students in mathematics is weaker than in earlier years. Remedial courses are being offered in greater numbers to raise student competence in math.

**Is additional assessment of this outcome required?**
- Yes
  - Additional assessment / confirmatory analysis required

**Description:**
Employer surveys on the class of 2003 will be used to defend the proposed change in the lowest levels of the residential campus math curriculum.

**Will assessment results be used to support any initiatives in future strategic planning?**
- Yes

**Briefly describe assessment result:**
Entrance math skills for freshmen must be assured.

**Classify the results as one of the following:**
- Strength

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**Step 2**

**Outcome Title**
Preparation in critical thinking skills

**Outcome Statement**
Emby-Riddle Aeronautical University students of the Daytona Beach campus are adequately prepared in critical thinking skills.

**Measurement Approach 1**

**Means of Assessment**

**Further Description:**
- **Timeframe of Data Collection**
  - NO DATA
- **Participants and Roles**
  - J. Libbey or replacement will view in February 2004 Tables B-25 and B-26 of Alumni Survey 2002.
Step 3

Other Details
NO DATA

Criterion for Success
Eighty percent of graduating Embry-Riddle graduates will rate their ability to think critically as good, very good, or excellent on the alumni feedback surveys, with less than twenty percent rating these skills as not useful.

Measurement Approach 2

Means of Assessment
Further Description:
Timeframe of Data Collection
NO DATA

Participants and Roles
J. Libbey or replacement will view in February 2004 Table B-17 of Employer Feedback Survey 2002.

Other Details
NO DATA

Criterion for Success
Eighty percent of employers will rate Embry-Riddle graduates’ preparation for critical thinking skills as good, very good, or excellent on their employer feedback surveys.

Step 4

Criterion for Success #1:
Eighty percent of graduating Embry-Riddle graduates will rate their ability to think critically as good, very good, or excellent on the alumni feedback surveys, with less than twenty percent rating these skills as not useful.

Results #1:
Thirty-nine percent of Daytona Beach Campus alumni from the class of 2003 rated their critical thinking skills preparation as good; 31% thought their preparation was excellent. Only 26% felt that the preparation of their critical thinking skills was poor or very poor.

Criterion for Success #2:
Eighty percent of employers will rate Embry-Riddle graduates’ preparation for critical thinking skills as good, very good, or excellent on their employer feedback surveys.

Results #2:
Employers’ surveys were not available at the time of this report.

Step 5

Have assessment results been used to make improvements?

- No

Is additional assessment of this outcome required?

- No

Will assessment results be used to support any initiatives in future strategic planning?

- No

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Step 2

**Outcome Title**
Preparation in oral communication skills

**Outcome Statement**
Embry-Riddle Aeronautical University students of the Daytona Beach campus are adequately prepared in oral communication skills.

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**Measurement Approach 1**

**Means of Assessment**

**Further Description:**

**Timeframe of Data Collection**
NO DATA

**Participants and Roles**
J. Libbey or replacement will view in February 2004 Tables B-25 and B-26 of Alumni Survey 2002.

**Other Details**
NO DATA

**Criterion for Success**
Eighty percent of Embry-Riddle graduates will rate their ability to speak before an audience as good, very good, or excellent on the alumni feedback surveys, with less than twenty percent rating these skills as not useful.

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**Measurement Approach 2**

**Means of Assessment**

**Further Description:**

**Timeframe of Data Collection**
NO DATA

**Participants and Roles**
J. Libbey or replacement will view in February 2004 Table B-17 of Employer Feedback Survey 2002.

**Other Details**
NO DATA

**Criterion for Success**
Eighty percent of employers will rate Embry-Riddle graduates’ preparation for speaking before an audience as good, very good, or excellent on their employer feedback surveys.

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Step 4

**Criterion for Success #1:**
Eighty percent of Embry-Riddle graduates will rate their ability to speak before an audience as good, very good, or excellent on the alumni feedback surveys, with less than twenty percent rating these skills as not useful.

**Results #1:**
Preparation of the Daytona Beach campus alumni from the class of 2003 in the skill of speaking before an audience was seen as good or excellent by 76% of the respondents.

**Criterion for Success #2:**
Eighty percent of employers will rate Embry-Riddle graduates’ preparation for speaking before an audience as good, very good, or excellent on their employer feedback surveys.

**Results #2:**
Employers’ surveys were not available at the time of this report.

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Have assessment results been used to make improvements?
### Step 5

**Outcome Title**
Curriculum modifications  
Pedagogical modifications

**Description:**
New approaches to multimedia oral presentations are maintaining strong skills of ERAU alumni. Increased use of group presentations in capstone courses will strengthen this student skill.

**Is additional assessment of this outcome required?**
- Yes
  - Additional assessment / confirmatory analysis required

**Description:**
Future alumni surveys and employer surveys will confirm the strengths of oral communication skills of ER graduates. Capstone course reports will address the public speaking gains of graduating seniors.

**Will assessment results be used to support any initiatives in future strategic planning?**
- Yes
  - Briefly describe assessment result:
    Speech course modifications will be made – and the speech requirement for all programs will be continued.
  - Classify the results as one of the following:
    - Strength

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### Step 2

**Outcome Title**
Preparation in technical writing skills

**Outcome Statement**
Embry-Riddle Aeronautical University students of the Daytona Beach campus are adequately prepared in technical writing skills.

**Measurement Approach 1**

**Means of Assessment**

**Further Description:**

- **Timeframe of Data Collection**
  - NO DATA

- **Participants and Roles**
  - J. Libbey or replacement will view in February 2004 Tables B-25 and B-26 of Alumni Survey 2002.

- **Other Details**
  - NO DATA

**Criterion for Success**
Eighty percent of Embry-Riddle graduates will rate their technical writing skills preparation as good, very good, or excellent on their alumni feedback survey with no more than twenty percent indicating their technical writing skills were not useful.

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**Measurement Approach 2**

**Means of Assessment**
## Further Description:

### Timeframe of Data Collection

**NO DATA**

### Participants and Roles

J. Libbey or replacement will view in February 2004 Table B-17 of Employer Feedback Survey 2002.

### Other Details

**NO DATA**

### Criterion for Success

Eighty percent of employers will rate their Embry-Riddle graduates’ technical writing competence as good, very good, or excellent on their employer feedback surveys.

### Step 4

#### Criterion for Success #1:

Eighty percent of Embry-Riddle graduates will rate their technical writing skills preparation as good, very good, or excellent on their alumni feedback survey with no more than twenty percent indicating their technical writing skills were not useful.

#### Results #1:

Sixty-six percent of the Daytona Beach Campus alumni who responded to the questionnaire for the 2003 class found that the preparation in technical writing was good or excellent. However, only fifty-eight percent of those same respondents considered technical writing skills as very useful on the job.

#### Criterion for Success #2:

Eighty percent of employers will rate their Embry-Riddle graduates’ technical writing competence as good, very good, or excellent on their employer feedback surveys.

#### Results #2:

Employers surveys were not available at the time of this report.

### Step 5

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

- **Yes**

- **Curriculum modifications**

- **Pedagogical modifications**

**Description:**

Electronic systems have been actively incorporated into the technical writing courses. Advanced Technical Writing, part of the Communications degree program, help to enhance technical writing pedagogy at all levels. Capstone course "final projects" will be examined for technical writing clarity/quality.

#### Is additional assessment of this outcome required?

- **Yes**

- **Additional assessment / confirmatory analysis required**

**Description:**

This alumni skill must be continually assessed to make sure that these skills don't slip below unproductive levels for employers. The escalating emphasis on visual and auditory communication (i-Pods, videophones, etc.) is resulting is less practice and skills refinement in technical writing.

#### Will assessment results be used to support any initiatives in future strategic planning?

- **Yes**

**Briefly describe assessment result:**

Continual curriculum improvements will be result from these findings. Writing across the curriculum will become more widespread.
Classify the results as one of the following:

- Opportunity