

Assessment Grants

Application Form for 2008-2009

Submission Deadline: May 1, 2008

The name of the project: Comprehensive Assessment of Aeronautical Science Program Outcomes. Complete Data Collection, Analyze Results and Recommend Improvements to Degree Program and Encourage Faculty Adoption of Best Assessment Practices.

Total dollar amount requested from Assessment Grant funds: \$4,500

If the department intends to provide matching funds, please include the total dollar amount of matching funds. Otherwise leave this blank: \$2,000

Primary Contact:

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The goal(s) of the project: This project intends to supplement, continue and improve a previous assessment grant submitted for the 2007 – 2008 academic year by Assistant Professor Wesley Stanfield. This project will ensure completion of the data collection of all individual Aeronautical Science (AS) degree course assessments from the Spring 2008 semester and validate the program outcomes. All results will be analyzed through a matrix developed in the original grant and then reviewed to identify best practices and areas for improvements that directly correlate to the University and Prescott campus AS master assessment plan. A new Blackboard website link will be developed to communicate and present the results (matrix) to the department faculty and staff. The development and promotion of common assessment tools for continuing use among different professors teaching the same course is especially important in the next academic year as the Prescott AS Department expects to hire up to 4 new full-time faculty that will be unfamiliar with the department assessment program and goals. The main goal is to identify and reinforce successful tools for assessing student performance using the outcomes based criteria adopted by the Aviation Accreditation Board International (AABI) and ensure the continuation of AS academic program improvement process prior to the next accreditation visit.

Project abstract: This project will input results from each semester/term from all Air Science Program Course Outcomes specified in the MCO Part II and evaluate them through the use of an assessment matrix already in development. After research and evaluation, the project will identify student learning outcomes where academic program improvements are still necessary. These outcomes and improvements will then be used as a basis for formulating and developing additional course assessment tools that will be mandated for use by all instructors teaching the course. Finally, a web-based access through Blackboard will be develop to provide constant feedback to all applicable faculty and staff to ensure program continuation and improvement.

This project:

1. Continues the development of a common set of assessment tools for use to assess outcomes in all Prescott Aeronautical Science courses and assess student performance even in sections taught by different instructors.
2. Evaluates assessment data from Prescott AS Program learning outcomes and analyzes results to identify needed areas of improvement.
3. Develops a continuous program for assessing student results for AS academic program improvement and in preparation for the next AABI visit.
4. Create an effective means for communicating necessary information to all applicable faculty and staff to ensure standardization of assessment program.

2. Objective:

The continuation and development of a model used for the ongoing assessment and improvement of the Aeronautical Science (AS) degree program at the Prescott campus. The evaluation of the data collected for all AS degree program course outcomes and the identification of program strengths and weaknesses. Suggest and create methods for improving student results in outcome areas where specific results did not meet program objectives. Develop a means of compiling and organizing all results, listing areas needed for improvement, best assessment practices and communicating this information to all applicable AS Department faculty and staff to ensure a continuous and strong AS Department assessment program.

3. Participants:

1. Primary Investigator: Assistant Professor Paul J. H. Amen (928)-777-3814, amenc48@erau.edu
2. All Prescott AS Course Monitors (Faculty)
3. Program Chair: Assistant Professor Dennis Lessard, (928)-777-6955, lessa08a@erau.edu
4. Center for Teaching and Learning Excellence (Blackboard Coordinator and Instructional Support): Shannon Field, (928)-777-6640, fields@erau.edu
5. New Faculty: To indoctrinate and train the new-hire faculty on the AS Department assessment program.

4. Description of Project:

Constituents: The Aeronautical Science Program will benefit from this assessment program. All faculty in the AS Dept. will gain knowledge and a process by which to assess the entire program and identify areas in need of improvement. Ultimately, AS graduates and industry will also benefit as the continuing assessments lead to improved performance of graduates in industry.

Phase One of the Project: Ensure results of Aeronautical Science assessment program outcomes for each course are collected from Spring 2008 semester. The investigator, Professor Amen, will coordinate with the previous Assessment Program Coordinator, Professor Stanfield, to determine current status of AS Department assessment results prior to Professor Stanfield's retirement from the University. Professor Stanfield has begun the development of a matrix to collect all the student assessment data from the previous semester and Professor Amen will ensure that all results are recorded from each AS Course Monitor and inserted into the matrix for evaluation.

Phase Two of the Project: Evaluate results from Spring 2008 semester using the matrix developed and refined in Phase One above. Determine the success of AS Department student learning and identify student learning outcomes that did not meet department goals. Based on results, provide feedback to appropriate faculty and Department Chair on the areas needed for improvement. Suggest updates and revisions of assessment tools for continuously evaluating student performance of outcomes in future semesters (i.e. Fall 2008 and Spring 2009 semesters). This phase will include communicating the results from the Spring 2008 semester to each Course Monitor to assist them in the development and revision of the assessment in each Program Learning Outcome as necessary for the upcoming academic year.

Phase Three of the Project. With the assistance of Ms. Shannon Field, develop an effective means to store and display assessment data using underutilized areas of Blackboard. This data, summarized and contained within the matrix previously discussed, will be made available to all Prescott AS department faculty and course monitors to review current assessment results, update results after each academic period, and communicate assessment related data (including recommendations for academic improvement) to the Department Chair and other members of the department. This site on Blackboard is originally intended to be a separate feature for official use primarily by the faculty and staff of the Prescott AS Department. This Blackboard feature is different than the proposed Blackboard assessment testing scheduled to be evaluated this summer by Dr. Northam and others. However, at some point during the project, if the University's Institutional Research (IR) division plans to implement their own Blackboard assessment site, then Professor Amen would coordinate with Shannon Field and IR to link the two sites if possible.

Phase Four of the Project. Professor Amen will promote and communicate the final assessment product and the Blackboard site to all applicable faculty and staff. Additional training will be given to the new-hire faculty to help accelerate their understanding of the program. This project will finalize a continuous program of assessing outcomes in Aeronautical Science for every semester in the future. Evaluation of the outcomes results throughout the program from initial data entry to final evaluation will attempt to keep the assessment as standardized and electronically recorded as possible. The final program will also specify use of the Embry-Riddle Power Planning Assessment Planning module as the means of documenting the improvements and changes to the program.

5. Timeline:

Fall 2008:

- Coordinate Course Monitor development of minimum assessment outcomes (carryover from previous project).
- Ensure Course Monitor evaluation of each AS course assessment (carryover from previous project).
- Coordinate with Professor Stanfield to ensure development of matrix is completed and input Spring 2008 and Summer 2008 semester results into matrix (documentation).
- Begin initial analysis of assessment results and coordinate with AS Department Chair to review status of program and identify areas needed for improvement.
- Complete the 2007 – 2008 ERPP Assessment Planning module.
- Determine revised or new Outcomes to be documented in the 2008 – 2009 ERPP Assessment Planning module.

Spring 2009:

- Continue and complete analysis of Summer/Fall 2008 assessment results.
- Develop Blackboard web site for display and access of AS Department assessment results (matrix).
- Provide specific training to new-hire faculty and other new course monitors as applicable on the AS Department assessment program.
- Specify timeline for all faculty to have revised student performance assessment and course improvements in place for the beginning of Fall 2009 semester.
- Input Fall 2008 semester results into matrix (documentation) and begin initial analysis of assessment results.

Summer 2009:

- Communicate and present to Course Monitors/faculty the Blackboard site with matrix and all final results to allow individual course improvements in Fall 2009 and Spring 2010 semesters.
- Coordinate with AS Department Chair to review status of program and identify areas needed for improvement.
- Ensure Course Monitor re-evaluation of each AS course assessment and collect assessment results from all courses taught in Spring and Summer 2009.
- Input Spring and Summer 2009 semester results into matrix (documentation) and begin initial analysis of assessment results.
- Revise program as required to ensure continuous faculty and staff participation and promote continuous academic program improvement.

6. Assessment Plan:

- Expected Project Outcomes:
 - Update AS program outcome list based on results from previous semesters.
 - Model program for continuous internal assessment of outcomes.
 - Standardize assessment tools for evaluating student knowledge/skills in outcomes.
 - Create an efficient and easy method for all applicable participants to access assessment data and update that data when new results are determined.
 - Communicate and train all products and results to the rest of the AS faculty and staff and University Administration.

This project is directly related to student outcomes developed in all courses taught in the Aeronautical Science degree program at the Prescott campus.

- Success Criteria:
 - Course Monitors evaluate each semester/term assessment results and develop at least one new method to enhance student performance in each course.
 - After data is analyzed, at least two major recommendations for improving AS Program and MCO Learning outcomes are identified each semester.
 - Primary Investigator completes training to 100% of faculty and staff on use and understanding of matrix and Blackboard web site by end of Fall 2008 semester.
 - By Spring 2009 semester, 80% of all department faculty will input end of semester assessment results from their course directly through the Blackboard web site within the desired time period (two weeks after semester/term is complete).
- Assessment Instruments (continuation from previous year project):
 - Blackboard test questions (Pretest and Post-Test)
 - Common Project Specification and rubrics for grading
 - Common Prerequisite testing
 - Rubrics for presentation grading
 - Rubrics for PC Simulator Test Flight grading
 - Overall program matrix for displaying and compiling complete assessment data and results
 - Blackboard web site for faculty and staff access to current matrix data

- Data Collection:
 - Course Monitors shall collect assessment data during each semester and summer terms.
 - All course monitors shall submit data to Program Chair and Grant Primary Investigator within two weeks of the end of each semester / term.
 - Grant Primary Investigator will input all assessment data and program outcome feedback into Assessment matrix and ensure Blackboard site is updated with latest information.
 - Data will be analyzed and recommendations for program improvement made to the Program Chair, Assistant Professor Lessard.
 - Data collected shall be entered in appropriate year ERPP Assessment Plan.

- Program Improvement:
 - As a result of this project, AS Program outcomes will be improved to reflect the latest industry needs and enhance student learning. Program outcome evaluation will be used to identify areas of improvement and revise course outcomes in the MCOs. All department faculty and staff will be very familiar with the AS Department assessment program and contribute to its success. This top-down mapping and revising of outcomes shall be used to assess all program outcomes internally, objectively and continuously.