

Program-Level Assessment: Annual Report

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| Program: Aviation | Department: Aviation Science |
| Degree or Certificate Level: Ph.D. | College/School: Parks College |
| Date (Month/Year): August 2020 | Primary Assessment Contact: Stephen Magoc |
| In what year was the data upon which this report is based collected? Spring 2020 | |
| In what year was the program’s assessment plan most recently reviewed/updated? Spring 2020 | |

1. Student Learning Outcomes

Which of the program’s student learning outcomes were assessed in this annual assessment cycle?

The following student learning outcomes were assessed in this assessment cycle.

1. Assess relevant literature or scholarly contributions in the aviation field of study,
2. Apply the major practices, theories, or research methodologies in the aviation field of study.
4. Articulate arguments or explanations to both a disciplinary or professional audience and to a general audience, in both oral and written forms.
5. Evidence of scholarly and/or professional integrity in the field of study.

2. Assessment Methods: Student Artifacts

Which student artifacts were used to determine if students achieved this outcome? Please identify the course(s) in which these artifacts were collected. Clarify if any such courses were offered a) online, b) at the Madrid campus, or c) at any other off-campus location.

Student artifacts such as assignments and test form the following courses were used to determine if students met the outcomes.

| Spring 2020 Courses |
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| ASCI 5010 Analysis of Aviation Safety Data |
| ASCI 5470 Quantitative Data Analysis |
| ASCI 6010 Federal and International Regulations |
| ASCI 6990 Dissertation Research |

3. Assessment Methods: Evaluation Process

What process was used to evaluate the student artifacts, and by whom? Please identify the tools(s) (e.g., a rubric) used in the process and include them in/with this report.

The department faculty (Drs. Stephen Belt, Terrence Kelly and Gajapriya Tamilselvan, and Mr. Stephen Magoc) met at the end of the spring 2020 semester to discuss the results and findings of student artifacts. The department faculty used course assessment forms and examples of student artifacts in their evaluation. As a result of the change in the assessment process being used, the department used course evidence provided by the full-time faculty and one adjunct faculty member. Course evidence from all adjunct faculty teaching in future semesters will be collected.

See Appendix A for the course assessment forms used for the evaluation of the courses and artifacts.

Additionally, the assessment process used by the department has been revised as follows.

- The department changed the method used to perform the overall assessment of the student learning outcomes. Previously, the department used only those courses taught in the previous semester to assess a student learning outcome. The department now uses all courses identified by the matrix to assess each student learning outcome. *
- The department determined that using the GRE score as a basis of admission was not sufficient to determine an applicant's ability to pursue graduate education. The department approved the use of a sample of an applicant's writing. The writing sample submitted must be solely authored by the applicant that has been preferably composed within the last two to three years. The sample should relate to a contemporary issue that is affecting the aviation industry. Submissions should be formatted to be APA document style compliant, be between 2,000-3,000 words in length, and include an abstract of less than 200 words.

*See the Program Level Assessment Plan Rev. 2020 for the revised student learning outcome/course matrix and the revised assessment plan.

4. Data/Results

What were the results of the assessment of the learning outcomes? Please be specific. Does achievement differ by teaching modality (e.g., online vs. face-to-face) or on-ground location (e.g., STL campus, Madrid campus, other off-campus site)?

Note: Courses in this program are taught entirely online.

Student Learning Outcome: 1. Assess relevant literature or scholarly contributions to the aviation field of study.

- In course ASCI 5010, the department determined that students meet the student learning outcome requirements, no remedial action is necessary. However, for the sake of continuous improvement, the future course requirements will require a minimum of three cited and referenced sources to support assertions in each precis required of students.

Student Learning Outcome: 2. Apply the major practices, theories, or research methodologies in the aviation field of study.

- In course ASCI 5010, the department agreed that to continuously improve the student learning outcome, future course requirements will expand the expectations of the mini proposal to include a more comprehensive methodologies section.

- In the course ASCI 5470, it was determined that the students met the student learning outcome by presenting their understanding on different aspects: statistical research design, using statistical software to analyze aviation/aerospace data, interpreting statistical data from their own research studies, exploring published research findings, and interpreting published research findings. For the upcoming semesters, the same elements of assessment “SPSS Assignments & LMR Design” will be used, but the level of competency will be increased by providing structured examples.
- In the ASCI 6010 course, the department agreed that the students met the requirements of the student learning outcome and that no remedial actions are required.

Student Learning Outcome: 4. Articulate arguments or explanations to both a disciplinary or professional audience and to a general audience, in both oral and written forms.

- In the course ASCI 6010, the department did not have sufficient course evidence to decide whether the student learning outcome had been met. The department determined that revisions to this course are necessary so that it might make this determination in the future.
- In the course ASCI 6990, the department determined that the students in both sections satisfactorily met the student learning outcomes. The assessment of dissertation hours (prior to completion of the dissertation) involve a qualitative assessment of the student/candidate’s progress. Perhaps the department should consider developing a metric, designed to provide a more-precise measure of progress.

Student Learning Outcome: 5. Evidence of scholarly and/or professional integrity in the field of study.

- In the course ASCI 5470, the department was not able to determine if this student learning outcome was met. The department needs to determine if this course is suitable to determine this student learning outcome’s requirement or if it is better suited for another student learning outcome.

5. Findings: Interpretations & Conclusions

What have you learned from these results? What does the data tell you?

The data collected and discussed in the evaluation process told the department the following.

- There is a need to further develop coursework so that students can better achieve the requirements of the student learning outcomes.
- The department needs to provide a means of better structuring its examples provided to students that are meant to help the student achieve student learning outcomes.
- The department needs to better determine the suitability of courses used to show that students can successfully achieve the student learning outcomes.

6. Closing the Loop: Dissemination and Use of Current Assessment Findings

A. When and how did your program faculty share and discuss these results and findings from this cycle of assessment?

The department faculty (Drs. Stephen Belt, Terrence Kelly and Gajapriya Tamilselvan, and Mr. Stephen Magoc)

met on-campus following the Spring 2020 (06/02/2020) semester to discuss and evaluate the results and findings of the student artifacts.

B. How specifically have you decided to use findings to improve teaching and learning in your program? For example, perhaps you've initiated one or more of the following:

Changes to the Curriculum or Pedagogies

- Course content
- Teaching techniques
- Improvements in technology
- Prerequisites
- Course sequence
- New courses
- Deletion of courses
- Changes in frequency or scheduling of course offerings

Changes to the Assessment Plan

- Student learning outcomes
- Student artifacts collected
- Evaluation process
- Evaluation tools (e.g., rubrics)
- Data collection methods
- Frequency of data collection

Please describe the actions you are taking as a result of the findings.

The department will make changes to the course content and teaching techniques as well as the evaluation tools used in the curriculum so that students are better able to:

- Assess relevant literature or scholarly contributions to the aviation field of study.
- Apply the major practices, theories, or research methodologies in the aviation field of study.
- Articulate arguments or explanations to both a disciplinary or professional audience and to a general audience, in both oral and written forms.
- Show evidence of scholarly and/or professional integrity in the field of study.

If no changes are being made, please explain why.

N/A

7. Closing the Loop: Review of Previous Assessment Findings and Changes

A. What is at least one change your program has implemented in recent years as a result of assessment data?

In a past assessment of Student Learning Outcomes the department relied solely on course assessment, as opposed to program assessment. A revision to how the department assesses the Ph.D. in Aviation program was made in 2020.

In the latest version of the previous assessment, the department determined that in its online course offerings, it needed to develop a more-granular approach to evaluate discussion board performance, and to develop more-explicit instructions for discussion board accountability. The department is of the opinion that while students have progressed in these areas, there is still more work needed in developing course syllabi and guidance which clearly outline the department's requirements.

B. How has this change/have these changes been assessed?

This change was assessed by the faculty during the Spring 2020 meeting. The assessment was conducted by assessing student performance in all courses identified in the Student Learning Outcome matrix.

C. What were the findings of the assessment?

The department faculty found that while previous changes made to the courses have been successfully implemented, the department realizes that additional revisions to some of its courses will be necessary in the context of continuous improvement so that students might better meet the student learning outcomes of the program.

D. How do you plan to (continue to) use this information moving forward?

Moving forward, the department will continue to work on improving its courses and monitor the student learning outcomes to determine whether students continue to satisfy the requirements of the student learning outcome at current levels or if they have improved.

IMPORTANT: Please submit any assessment tools and/or revised/updated assessment plans along with this report.