Assessment Plan
Center for Aviation Studies
The Ohio State University

THE OHIO STATE UNIVERSITY

The College of Engineering
2015
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Assessment Overview

This assessment plan is written and implemented by the Faculty, Lecturers, Instructors and Staff of the Center for Aviation Studies (CAS). This plan was put into place to satisfy the requirements of the Aviation Accreditation Board International (AABI), the College of Engineering and The Ohio State University to ensure the continued success of the graduates of the aviation academic degree program.

The Center for Aviation Studies has created an Assessment Committee to ensure implementation and continued evaluation of the methods utilized to assess the CAS programs. This committee is comprised of the following:

- Assessment Committee Chair
- Assessment Committee Project Manager
- Director of Flight Education
- Aviation Academic Advisor
- Center for Aviation Studies Lecturers
Mission and Vision Statements

The Ohio State University
We exist to advance the well-being of the people of Ohio and the global community through the creation and dissemination of knowledge.

The College of Engineering
We create, transfer, and preserve knowledge in the disciplines of engineering and architecture for the purpose of enhancing economic competitiveness regionally, nationally, and globally.

College of Arts and Sciences
The College of Arts and Sciences will be a recognized leader, on campus and beyond; in teaching and learning, research and creative activity, and outreach and engagement.

The Center for Aviation Studies
The mission of the Center for Aviation Studies is to incorporate engineering, business, and behavioral philosophies into a multi-disciplinary approach to the many components of the aviation industry, supporting world class flight education programs, academic degree programs, research initiatives, and outreach activities on local, regional, national, and international levels.

Aviation Program Specific

Bachelor of Science degree in Aviation with the Professional Pilot Specialization, College of Engineering
The mission of the program is to produce well rounded professional pilots with a background in engineering and aviation coursework that culminates in an Instrument rated Commercial Pilot Certification and either a Multi-engine rating or Certified Flight Instructor certificate. This curriculum is based upon math, science and engineering fundamentals and is designed to nurture students’ abilities to participate in the global aviation industry as an ethical practitioner of their field. Students will be able to communicate effectively to solve problems in a diverse environment and instilled with a desire for continued lifelong learning of skills and knowledge to help advance the aviation industry. Graduates of this program will be trained and certified to join the industry as a professional pilot.

Bachelor of Arts degree in Social Sciences: Air Transportation with the Professional Pilot Specialization, College of Arts and Sciences
The mission of the program is to produce well rounded professional pilots with a background in the liberal arts and aviation coursework that culminates in an Instrument rated Commercial Pilot Certification and either a Multi-engine rating or Certified Flight Instructor certificate. This curriculum focuses on the global transportation system with a special emphasis on air transportation and is designed to nurture and develop students’ abilities to participate in
the global aviation industry as an ethical practitioner of their field. Students will be able to communicate effectively to solve problems in a diverse environment and instilled with a desire for continued lifelong learning of skills and knowledge to help advance the aviation industry. Graduates of this program will be trained and certified to join the industry as a professional pilot.

**Bachelor of Science degree in Aviation, College of Engineering**

The mission of the program is to produce well rounded aviation professional with a background in engineering systems and aviation coursework. This curriculum is based upon math and science fundamentals and is designed to nurture and develop a students’ abilities to participate in the global aviation industry as an ethical practitioner of their field. Students will be able to communicate effectively to solve problems in a diverse environment and instilled with a desire for continued lifelong learning of skills and knowledge to help advance the aviation industry. Graduates of this program will be prepared to find employment in the industry in analytical positions such as fleet optimizer or network analyst.

**Bachelor of Arts degree in Social Sciences: Air Transportation, College of Arts and Sciences**

The mission of the program is to produce well rounded aviation professional with a background in the liberal arts and aviation coursework. This curriculum focuses on the global transportation system with a special emphasis on air transportation and is designed to nurture and develop a students’ abilities to participate in the global aviation industry as an ethical practitioner of their field. Students will be able to communicate effectively to solve problems in a diverse environment and instilled with a desire for continued lifelong learning of skills and knowledge to help advance the aviation industry. Graduates of this program will be prepared to find employment in the industry in positions such as route planner or scheduler.

**Bachelor of Science degree in Business Administration: Specialization in Aviation Management, Fisher College of Business**

The mission of the program is to produce well rounded aviation managers with a background in business administration and analytics. This curriculum is centered on business fundamentals as applied to aviation concepts and is designed to nurture and develop a students’ abilities to participate in the global aviation industry as an ethical practitioner of their field. Students will be able to communicate effectively to solve problems in a diverse environment and instilled with a desire for continued lifelong learning of skills and knowledge to help advance the aviation industry. Graduates of this program will be prepared to gain employment as entry-level managers at airports, airlines, and other aviation companies.
**Program Educational Objectives**

The following four aviation program objectives were derived by the CAS faculty, lecturers, instructors and staff. These objectives will serve as the basis for our assessment activities. These objectives were created with assistance from the College of Engineering.

- Graduates of the program will be employed in the aviation profession or applying their aviation knowledge to their chosen career.
- Graduates with an interest in advanced studies in aviation will be pursuing, or have completed additional studies.
- Graduates will engage in life-long learning and apply new ideas and technology as the field of aviation evolves.
- Graduates will be informed, involved community members and responsible professionals.

**Program Outcomes**

**AABI General Outcomes**

The AABI general outcomes are derived from the Accreditation Criteria Manual section 3.3.1. Aviation programs must demonstrate that graduates are able to:

a. Apply mathematics, science, and applied sciences to aviation-related disciplines;
b. Analyze and interpret data;
c. Work effectively on multi-disciplinary and diverse teams;
d. Make professional and ethical decisions;
e. Communicate effectively, using both written and oral communication skills;
f. Engage in and recognize the needs for life-long learning;
g. Assess contemporary issues;
h. Use the techniques, skills, and modern technology necessary for professional practice;
i. Assess the national and international aviation environment;
j. Apply pertinent knowledge in identifying and solving problems;
k. Apply knowledge of business sustainability to aviation issues.

**AABI Aviation Core Outcomes**

Aviation programs demonstrate that their graduates are able to:

1. Describe the professional attributes, requirements, or certifications, and planning applicable to aviation careers.
2. Describe the principles of aircraft design, performance and operating characteristics; and the regulations related to the maintenance of aircraft and associated systems.
3. Evaluate aviation safety and the impact of human factors on safety.
4. Discuss the impact of national and international aviation law, regulations and labor issues on aviation operations.
5. Explain the integration of airports, airspace, and air traffic control in managing the National Airspace System.
6. Discuss the impact of meteorology and environmental issues on aviation operations.
Program Criteria

Aviation Management

Each program MUST provide evidence that graduates possess the necessary knowledge, skills and attitudes to competently and ethically function as a manager in the aviation industry. Each program may be oriented toward a segment of the industry, such as airlines, general aviation or airports; or towards a specific area, such as flight operations management or aircraft maintenance management, or may be of a general nature. Additionally, each program MUST provide evidence that its graduates demonstrate competency in program goals.

Each program MUST provide evidence of a significant culminating upper division experience in aviation management. Examples of a culminating experience include a capstone course, an internship, or a special project that builds on prior course work. Evidence may include student portfolios and other records of student achievement.

Aviation Studies

Each program MUST provide evidence that graduates possess the necessary knowledge, skills, and attitudes to competently and ethically function as a professional in the aviation industry.

The Aviation Studies option provides baccalaureate courses in a coherent sequence to prepare the graduate for a position in the aviation industry and aviation related government agencies, requiring either broad or specialized educational preparation. Each program MUST provide evidence that its graduates demonstrate competency in program goals.

Each program MUST provide evidence of a significant culminating upper division experience in aviation studies. Examples of a culminating experience include a capstone course, an internship, or a special project that builds on prior course work. Evidence may include student portfolios and other records of student achievement.

Flight Education

Each program MUST provide evidence that graduates possess the necessary knowledge, skills and attitudes to competently and ethically function as professional pilots in the aviation industry.

Classroom and laboratory topics MUST lead to appropriate national certification. The program goals MUST include certification/licensure as a Commercial Pilot with an instrument rating, and multiengine land rating or flight instructor. Each program MUST provide evidence that its graduates demonstrate competency in program goals.

Each program MUST provide evidence of a significant culminating upper division experience in flight education. Examples of a culminating experience include a capstone course, an internship, or a special project that builds on prior course work. Evidence may include student portfolios and other records of student achievement.
Assessment Techniques

The assessment process is ongoing, data is collected and analyzed continuously throughout the CAS and used to better foster student learning. The following techniques are used to gather both direct and indirect feedback on students learning.

Graduation (exit) survey

Graduating students will be asked to participate in an in class ‘online survey’ that will ask about their experience in the program and their future plans. Questions about the student’s future employment and salary info will be collected at this time. As well as information on their perceived preparedness for their future employment.

Graduation (exit) interviews

A random sampling of graduating seniors will be selected to participate in the graduation interviews the month prior to graduation. The plan will call for at least 15% of graduating seniors to be selected from the graduating class. There will be students representing each of the program areas. Questions will be created by the Assessment Committee.

Random Focus Groups

There will be three random focus groups set up consisting of students from each of the first three class ranks. These groups will meet during the spring semester with two members of the Assessment Committee. A set of questions will be devised for each specific group. The information gathered during the focus groups will be used to assess the student’s perspective on the Center’s goals.

Capstone Projects

The aviation capstone course will be the primary evaluative tool for the programs. This course will be led by a team of project advisors comprised of CAS faculty and staff, and the assignments will be reviewed by the Assessment Committee.

Course Exams and Assignments

Course exams and assignments will be used on a scheduled basis to lead faculty discussion and collaboration on students learning in the context of the specified outcomes.

Stage Check Review and FAA Written Examinations: (Used to assess Professional Pilot Specialization students)

A Post-Stage Check review form will be required to be filed out by the evaluator and turned into the Director of Flight Education and Assessment Committee Project Manager at the completion of each Stage Check. This form will record data about the students’ performance during the oral and practical exams, as well as their score on the FAA written exam. It will also list any topic areas from the FAA written test and the Practical Test Standards in which the student was found to be deficient.
This information will be evaluated every year to view stage check completion rates and identify any trends in decreasing student proficiency rates so that appropriate modifications can be made to the Pilot Certification Courses.

**Aviation Alumni Society Board Meetings**

The Aviation Alumni Society Board meets three times per year to discuss the issues relevant to the alumni of the Ohio State aviation program. The CAS Director is a member of this board and can thus report to the Assessment Committee any information in which the Alumni feel the CAS can improve its curriculum and produce more well-rounded graduates.

**Center for Aviation Studies Faculty Oversight Committee & Aviation Industry Advisory Board**

Annually each spring semester the CAS Faculty Oversight Committee & the Aviation Industry Advisory Board meet to assess the departmental goals, and determine if any changes need to be made to ensure that students are prepared for a career in the aviation industry. Membership on the Aviation Industry Board is determined by the Assessment Committee and members are appointed for a two-year term.

**Aviation Industry Consortium**

The industry consortium is comprised of individuals who attend industry night, participate in mock interviews, provide tours for our students, and participate as a host for the Capstone Project. If an individual is currently serving as a Capstone Project advisor, they are invited to participate on the Aviation Industry Board for that term only. This consortium provides an opportunity for CAS to collect indirect data feedback from members of the industry.
Assessment Schedule

At the end of each semester all individuals who had a teaching assignment are required to submit a Class Review to the Assessment Committee. At a minimum, this Class Review will include:

- Syllabus
- Number of students
- Distribution of grades and averages
- List of assessment techniques
- Student Evaluation of Instruction (SEI) forms

Each year the Assessment Committee will select two Aviation Core courses and one Flight Certification Course to undergo a more formal Course Review. This Course Review will ensure that the course is adequately teaching the outcomes and objectives provided to AABI. Creating such a schedule will ensure that the eight Aviation Core courses and four Flight Certification Courses are reviewed by the Assessment Committee every four years.

The Instructor who was most recently assigned to teach the course will be required present a full report to the Assessment Committee to include the following:

- Syllabus
- Historical student enrollments
- Historical Grade Distributions
- List of all Assessment Techniques
- Samples of SEI’s
- Evidence of teaching and assessment of the AABI General Outcomes, AABI Core Outcomes and AABI Program Criteria
- Examples of high, medium and low grades on exams, papers and homework
Closing the Loop

Results of Assessment
The end product of using this assessment plan should result in more significant learning for our students, better overall educational program and more informed and connected faculty, lecturers, instructors and staff. All recommended changes to any of the aviation programs must be made based upon assessment results and will be tracked and reported annually to CAS faculty, lecturers, instructors and staff.

Dissemination of Assessment Results
A. Faculty and Lecturer Meetings will be scheduled during the following months to highlight various forms of assessment data.
   a. December- Graduation Interview, and Graduation (exit) survey findings.
   b. May- Focus Group and Capstone Results
B. Assessment Report/ Presentations: Detailed reports are provided at the beginning of the academic year for each of the major assessment activities.
   a. Graduation Interviews
   b. Focus Groups
   c. Stage Check Review and FAA Written Exams
   d. Survey’s conducted by the department (graduation survey, industry, alumni, etc.)

Assessment Plan Evaluation
It is vitally important that the above plan is subject to review to ensure that it is in fact assessing the departmental goals, that the information is being distributed, and that no items are being missed. Evaluating the Assessment Plan will be done informally on a continual basis through discussions with target groups, and between committee members. The assessment plan will be formally assessed at the end of each academic year at the committee’s May meeting. This plan is a flexible, working document that will need to be revised to uphold its purposes and usefulness to the department and its students.