



AVIATION PROGRAM OBJECTIVES AND ASSESSMENT



Program Educational Objectives

The Bridgewater State University Aviation program mission statement:

“We educate students to become responsible citizens and leaders within the aviation community. Our faculty place strong emphasis on teaching and service, to strive to create an intellectual climate which promotes excellence and provides a learning environment that responds to the demands of the global aviation community.”

The Department of Aviation Science decided to review the past Program Education Objectives and work toward writing objectives that:

1. Are aligned with the University’s Goals (Table #1).
2. Are aligned with the University’s Core Curriculum (Table #2).
3. Are aligned with the Program’s Student Learning Outcomes (Table #3).

University Goals

The Bridgewater State University mission statement:

“As the comprehensive public university of Southeastern Massachusetts, Bridgewater State University has a responsibility to educate the residents of Southeastern Massachusetts and the commonwealth, and to use its intellectual, scientific and technological resources to support and advance the economic and cultural life of the region and the state.”

The department established the following Program Educational Objectives that were approved by the department and are available publicly.

All students graduating from BSU’s Aviation Sciences – Flight Training Program should demonstrate:

- 1. Social and Global Awareness that is connected to ethical decision making**
- 2. A commitment to lifelong learning as a step toward personal growth and expertise in aviation along with a commitment to promote aviation safety**
- 3. A high level of proficiency in written and oral communication**
- 4. An ability to work well in teams in a collaborative manner**

Table #1 – Connection of Flight Training Program Educational Objectives to University Goals

Aviation Science Flight Training Program Educational Objective	Bridgewater State University Goals				
	Goal 1 Teaching and Learning Relationships	Goal 2 Personal and Professional Growth	Goal 3 Responsibility to the Public	Goal 4 Diversity and Global Awareness	Goal 5 Social Justice
1			X	X	X
2		X			
3	X	X			
4	X		X		

University Core Curriculum

Bridgewater State University's Core Curriculum was developed to serve as the educational foundation that all Bridgewater State University students will build upon when completing their program of study. The Core Curriculum features a skills-centered, outcomes based distribution model of general education that allows students a wide choice of courses and the flexibility to integrate the requirements of their major with the broader, liberal education that is required of responsible, educated citizens of the 21st century. Students who complete the BSU Core Curriculum will learn a significant body of factual knowledge as well as gain an understanding of the intellectual foundations, conceptual frameworks, and methodologies of the major academic disciplines.

The BSU Core Curriculum is composed of four main areas.

- Skill Requirements. All students are required to demonstrate proficiency in the skill areas of writing, logical reasoning, mathematical reasoning, and spoken communication.
- Core Distribution Requirements. All students will learn about the arts, humanities, the natural and social and behavioral sciences, global culture, multiculturalism, quantitative reasoning and the U.S. and Massachusetts Constitutions.
- Seminars. The First and Second Year Seminars are key features of the BSU Core Curriculum. These topic courses will allow students to explore an area of interest in a small, discussion-oriented course. The First Year Seminar is a writing intensive course designed to engage the student in college-level learning. The Second Year Seminar is either speaking or writing intensive and will engage students in the connections between classroom learning and its applications. ***Please note:** Students may only take one First Year Seminar and one Second Year Seminar.
- Requirements in the major. To connect the Core Curriculum with each major, students will complete one writing intensive course in their major and will be able to demonstrate information literacy and technology proficiency in their major.

Table #2 – Connection of Flight Training Program Educational Objectives to University Core Requirements

Program Educational Objectives	University Core Curriculum Requirements			
	Skill Requirements	Core Distribution Requirements	Seminar Requirements	Requirements to the Major
1		X		
2		X		X
3	X		X	X
4				X

Program Student Learning Outcomes

The Aviation Sciences Department matched the Program Educational Objectives to the Student Learning Outcomes:

Table #3 – Connection of Flight Training Program Educational Objectives to Student Learning Outcomes

Student Learning Outcomes	Program Educational Objective*			
	1	2	3	4
a. Apply mathematics, science, and applied sciences to aviation-related disciplines			X	
b. Analyze and interpret data		X		
c. Work effectively on multi-disciplinary and diverse teams				X
d. Make professional and ethical decisions	X			
e. Communicate effectively, using both written and oral communication skills			X	X
f. Engage in and recognize the need for life-long learning		X		
g. Assess contemporary issues	X			
h. Use the techniques, skills, and modern technology necessary for professional practice		X		
i. Assess the national and international aviation environment	X			
j. Apply pertinent knowledge in identifying and solving problems		X		
k. Apply knowledge of business sustainability to aviation issues	X			

The Aviation Science Department reviewed each courses' objective in the Fall of 2014 and mapped those objectives to AABI Criterion 3.3.1 (Student Learning Outcomes). The faculty then reviewed each course to determine if the courses' outcomes were met (AABI Criterion 5.5.2). Evidence for Criterion 5.5.2 is in Appendix A.

AABI Criteria	AVSC100	AVSC105	AVSC200	AVSC211	AVSC212	AVSC300	AVSC303	AVSC307	AVSC310	AVSC320	AVSC400
a. Apply mathematics, science, and applied sciences to aviation-related disciplines				X		X	X				
b. Analyze and interpret data				X		X			X		
c. Work effectively on multi-disciplinary and diverse teams										X	
d. Make professional and ethical decisions		X					X	X	X		X
e. Communicate effectively, using both written and oral communication skills			X				X	X	X		X
f. Engage in and recognize the need for life-long learning	X	X									X
g. Assess contemporary issues				X	X		X	X			
h. Use the techniques, skills, and modern technology necessary for professional practice	X		X			X					X
i. Assess the national and international aviation environment				X	X					X	
j. Apply pertinent knowledge in identifying and solving problems	X		X		X			X			X
k. Apply knowledge of business sustainability to aviation issues										X	

How Program Educational Objectives are assessed

The Program Educational Objectives are reviewed on a regular schedule by the faculty, staff and Aviation Advisory Board (AAB). Members of the AAB are each presented with the Program's Educational Objectives as well as the Student Learning Outcomes. During each winter AAB meeting, the AAB provides input and recommendations for the faculty and staff to use as reference material when the Program Objectives and Student Learning Outcomes are assessed.

How data is collected

Course data is collected from the faculty member that is primarily responsible for teaching that course. Each member has classroom assessments, either whole assessments or specific sections of whole assessments that are focused on the course’s overall objective. The faculty member then scores the assessment and compares the results to the benchmarks that were established by the department. See Appendices A & B.

When data is collected and how is it analyzed

Data is collected for each course at the end of the semester and reviewed at the end of each year (see table below). Once the data is collected, the results are reviewed by the department and if benchmarks are not met or if there is concern that an objective is not met, the faculty addresses ways to improve the results.

Each faculty member that is considered “responsible for the course” reviews each of their courses and the results are shared with the Aviation Sciences Department.

Additionally, the Aviation Sciences Department will have regular reports provided by the Bridgewater State University Testing Center (LaserGrade). These reports will provide the aggregate results to FAA written tests. According to Lasergrade, aggregate results cannot be broken into FAA topical areas.

Below is a copy of the most recent report from the campus Testing Center.

Rating	Total 1st-Time Tests	Total 1st-Time Tests Passed	Percent Passing 1st-Time Tests
Instrument Rating	17	14	82%
Private Pilot	79	60	76%
Fund. Of Instruction	3	3	100%
Adv. Ground Instructor	1	1	100%
Instrument Instructor	1	1	100%
Airline Transport Pilot	6	6	100%
Commercial Pilot	9	9	100%
Flight Instructor	2	2	100%

With regards to the review of the Program Outcomes and Student Learning Outcomes, the Aviation Sciences Department has not identified any weaknesses. This does not mean that there are not weaknesses, but if/when they are found and depending on how much change is needed for each course, the faculty will decide if the change must pass through the University's governance committee or not. Minor changes can be implemented at the start of the next semester. Needed changes are the responsibility of the faculty who teaches the course most often, or is considered the courses' Subject Matter Expert (SME). The SME is established through faculty interaction with each other, and partly based on each faculty's academic and professional background.

Assessment Schedule of AABI General Outcomes to BSU Flight Training Program

The Aviation Sciences Department adopted the following schedule to determine that the Flight Training program is aligned with the current AABI General Program Outcomes.

AABI General Outcomes	2015	2016	2017	2018
a. An ability to apply knowledge of mathematics, science, and applied sciences	X			
b. An ability to analyze and interpret data	X			
c. An ability to function on multi-disciplinary and diverse teams	X			
d. An understanding of professional and ethical responsibility			X	
e. An ability to communicate effectively, including both written and verbal communication skills		X		
f. A recognition of the need for, and an ability to engage in, life-long learning			X	
g. A knowledge of contemporary issues				X
h. An ability to use the techniques, skills, and modern technology necessary for professional practice				X
i. An understanding of the national and international aviation environment				X
j. An ability to apply pertinent knowledge in identifying and solving problems.		X		
k. Apply knowledge of business sustainability to aviation issues		X		

How changes or improvements are developed

Changes or improvements that need to be made in order to address shortcomings are developed by the faculty and flight training staff. When changes are made, the faculty must address why the change is being made and what the expected outcome will be. Typically, a change in classroom instruction is suggested first by faculty members to address needed changes.

How changes are incorporated into the program

All changes that need to be incorporated in the program begin first at a departmental level and usually from the faculty member responsible for the course. In the case of flight courses, these changes can come from flight instructors but they will be directed to the Chief Flight Instructor. Suggested changes are then brought to the Department Chair and Associate Dean of Aviation. The Department Chair along with faculty and staff decides the impact of the change to the course and program. Examples of this type of change includes changes to the course description, and changes to the course's syllabus. For example, the Commercial Pilot Flight Course's Training Course Outline (TCO) was recently revised and approved by the FAA with fewer contact hours than in the past. However, the department was able to ensure that the course's objectives are still being met.

Student Retention

In order to improve retention and student success, the Aviation Department held a series of meetings to address the student retention issues. Three initial solutions were implemented.

1. All incoming aviation students are required to attend a mandatory weekend-long orientation. This orientation is in addition to and separate from the University's general orientation. The purpose of this orientation is to present a clear picture to the student of what they will need in order to be successful in the program and to dispel overly idealistic notions about what is involved in becoming a pilot. During the Aviation Orientation, the students review program policies and degree requirements. They learn about time management skills, industry trends and pay rates, along with career opportunities.
2. During the summer of 2014, the Aviation Sciences Department piloted a new program for incoming freshmen called Summer Start. The Summer Start program is an intensive two-week program with the goal for the student to solo before the start of the fall semester. The purpose of this program is to "front load" the students academically to the rigor of flight training.
3. Student tracking data compiled from the first Summer Start was very positive. More than 65% of the students enrolled in the program completed the flight and ground course work by the end of the semester. In the previous fall (2013), less than 20% of the students completed the coursework. As a result, during the summer of 2015, the Summer Start Program will be a requirement of all incoming Flight Training students.