	<p style="text-align: center;">South Dakota State University</p>				
<p style="text-align: center;">May 17, 2018</p>	<table border="1" style="width: 100%;"> <tr> <td data-bbox="714 472 1336 514">College of EHS; Consumer Sciences Department</td> </tr> <tr> <td data-bbox="714 514 1336 546">Bachelor of Science- Aviation</td> </tr> <tr> <td data-bbox="714 546 1336 577">Aviation Education Specialization</td> </tr> <tr> <td data-bbox="714 577 1336 617">Compliance with AABI 3.4.2</td> </tr> </table>	College of EHS; Consumer Sciences Department	Bachelor of Science- Aviation	Aviation Education Specialization	Compliance with AABI 3.4.2
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Aviation Education Program Mission

The Aviation Education Program at South Dakota State University is committed to preparing safe, innovative, professional aviation educators who enhance human potential through transdisciplinary, learner-centered education in South Dakota and beyond. We assure this by creating multiengine commercial pilots and instructors who are able to apply the general education core to the aviation profession.

Aviation Program Educational Objectives

1. Exhibit excellent aviation technical abilities;
2. Conduct themselves in a responsible, professional and ethical manner; and
3. Participate as active leaders and productive members of their community and profession.

SDSU Program Outcomes

1. Apply the general education core to the aviation profession.
2. Demonstrate instructional knowledge in single- and multi-engine aircraft to the FAA commercial pilot standard.
3. Demonstrate instructional knowledge by creating and teaching relevant aviation topics to colleagues.

Aviation Accreditation Board International Outcomes

AABI General Outcomes

The AABI general outcomes are derived from the Accreditation Criteria Manual section 2.3.1.

Aviation programs must demonstrate that graduates are able to:

- a. apply knowledge of mathematics, science, and applied sciences
- 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 need 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

The AABI core outcomes are derived from the Accreditation Criteria Manual section 2.4.1.

The AABI aviation core outcomes are the established aviation-related core topics to be assessed for all aviation graduates.

The curriculum must address student knowledge outcomes in the following aviation core topics:

1. Attributes of an aviation professional, career planning, and certification
2. Aircraft design, performance, operating characteristics, and maintenance
3. Aviation safety and human factors
4. National and international aviation law, regulations, and labor issues
5. Airports, airspace, and air traffic control
6. Meteorology and environmental issues

South Dakota Board of Regents Outcomes

Courses offered in the general education curriculum provide broad and diverse perspectives and help the student acquire essential intellectual skills. The following are the goals established by the South Dakota Board of Regents:

System Goal #1: *Written Communication*

Students will write effectively and responsibly and will understand and interpret the written expression of others.

System Goal #2: *Oral Communication*

Students will communicate effectively and responsibly through listening and speaking.

System Goal #3: *Social Sciences/Diversity*

Students will understand the organization, potential, and diversity of the human community through study of the social sciences.

System Goal #4: *Humanities and Arts/Diversity*

Students will understand the diversity and complexity of the human experience through study of the arts and humanities.

System Goal #5: *Mathematics*

Students will understand and apply fundamental mathematical processes and reasoning.

System Goal #6: *Natural Sciences*

Students will understand the fundamental principles of the natural sciences and apply scientific methods of inquiry to investigate the natural world.

Assessment plan guidance

Because of the overlap between the South Dakota Board of Regents system goal requirements (SGR's), SDSU institutional goal requirements (IGR's), and the SDSU Aviation Program outcomes, the following charts demonstrate how multiple systematic outcomes are reached and integrated into the AABI general and core outcomes. Hence, when the AABI General and Core outcomes are met along with the SDSU Program outcomes, they in turn meet SDSU outcomes.

Additionally, when the nine assessment techniques are implemented, all AABI General and Core outcomes, SDSU Program Outcomes, and SDSU Goals are met.

AABI General vs. SD BOR Matrix

The following matrix demonstrates how the AABI General Outcomes relate to the South Dakota Board of Regents system goals:

AABI Outcome\General Education Goals	Goal 1: Written Communication	Goal 2: Oral Communication	Goal 3: Social Sciences / Diversity	Goal 4: Humanities and Arts/ Diversity	Goal 5: Mathematics	Goal 6: Natural Sciences
AABI General Outcomes						
a. An ability to apply knowledge of mathematics, science, and applied sciences					x	x
b. An ability to analyze and interpret data					x	x
c. An ability to function on multi-disciplinary and diverse teams			x	x		
d. An understanding of professional and ethical responsibility			x			
e. An ability to communicate effectively, including both written and verbal communication skills	x	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						
i. An understanding of the national and international aviation environment						
j. An ability to apply pertinent knowledge in identifying and solving problems						x
k. An ability to apply knowledge of business sustainability to aviation issues						

Relationship of AABI General, AABI Core Outcomes, and SDSU outcomes to SDSU Aviation Courses

	Aviation Program		SD BOR SGR's													AABI General						AABI Core					
	Apply the general education core to the aviation profession.	Demonstrate instructional knowledge in single and multi-engine aircraft to the FAA commercial pilot standard.	Goal 1: Written Communication	Goal 2: Oral Communication	Goal 3: Social Sciences / Diversity	Goal 4: Humanities and Arts/Diversity	Goal 5: Mathematics	Goal 6: Natural Sciences	Goal 7: Information Literacy	Ability to apply knowledge of mathematics, science and applied sciences to aviation-related disciplines	Ability to analyze and interpret data	Ability to work effectively on multi-disciplinary & diverse teams	An understanding of professional and ethical decision-making	Ability to communicate effectively, using both written and oral communication skills	Recognition of the need for, and an ability to engage in, life-long learning	Knowledge of contemporary issues	Ability to use techniques, skills, and technology necessary for professional practice	Understanding of the national and international aviation environment	Ability to apply pertinent knowledge in identifying and solving problems	Ability to apply knowledge of business sustainability to the aviation business	Attributes of an aviation professional, career planning, and certification	Aircraft design, performance, operating characteristics, and maintenance	Aviation safety and human factors	National and international aviation law, regulations, and labor issues	Airports, airspace, and air traffic control	Meteorology and environmental issues	
AVIA101																											
AVIA150	x										x										x						
AVIA170/171	x								x	x							x										
AVIA180/181	x											x					x	x					x	x	x	x	x
AVIA200	x										x	x	x				x						x				
AVIA201	x								x	x	x						x										
AVIA300	x											x															
AVIA302	x									x	x	x	x			x											
AVIA305	x								x	x	x	x	x			x											
AVIA340	x									x																	
AVIA370/372		x															x										
AVIA375/377		x							x	x							x										
AVIA400	x										x		x			x											
AVIA440			x								x		x	x	x	x											
AVIA450			x										x	x	x												
AVIA470/474		x															x										
AVIA471/475		x															x										
AVIA489	x		x						x	x	x	x	x	x	x	x	x	x	x	x							

Relationship of Aviation AABI Outcomes to Program Educational Objectives

Outcomes 		Objectives 	Objective 1: Graduates who exhibit excellent aviation technical abilities.	Objective 2: Graduates who conduct themselves in a responsible, professional, and ethical manner.	Objective 3: Graduates who participate as active leaders and productive members of their community and profession.
AABI General Outcomes	a. Ability to apply knowledge of mathematics, science, and applied sciences	x			
	b. Ability to analyze and interpret data			x	
	c. Ability to function on multi-disciplinary teams			x	x
	d. Understanding of professional and ethical responsibility	x			x
	e. Ability to communicate effectively, including both written and verbal communication skills	x		x	
	f. Recognition of the need for, and an ability to engage in, life-long learning	x		x	x
	g. Knowledge of contemporary issues			x	x
	h. Ability to use the techniques, skills, and modern technology necessary for professional practice			x	
	i. Understanding of the national and international aviation environment			x	x
	j. Ability to apply pertinent knowledge in identifying and solving problems.	x		x	x
	k. Ability to apply knowledge of business sustainability to aviation issues			x	
AABI Core Outcomes	a. Knowledge of aircraft design, performance, operating characteristics, and maintenance	x			
	b. Knowledge of national and international aviation law and regulations	x			
	c. Knowledge of airports, airspace, and air traffic control	x			
	d. Knowledge of meteorology and environmental issues	x			
	e. Knowledge of aviation safety and human factors	x		x	
	f. Knowledge of attributes of an aviation professional, career planning, and certification	x		x	
AVIA Program Outcomes	Apply the general education core to the aviation profession.	x		x	x
	Demonstrate instructional knowledge in single and multi-engine aircraft to the FAA commercial pilot standard.	x		x	
	Demonstrate instructional knowledge through creating and teaching a relevant aviation topic to colleagues.			x	x

Assessment Techniques

The assessment process is ongoing and data is collected and analyzed continuously throughout the aviation program and used to better foster student learning. The program uses the following techniques to gather both direct and indirect feedback on student learning.

Assessment #1 FAA Written Exam:

The FAA Written Test #1 is completed in AVIA 170: Fundamentals of Flight Theory. Written FAA tests are required four times across the program to ensure compliance with FAA certificates and levels of training. The first written exam is comprised of 60 questions and must be passed before enrolling subsequent courses or taking FAA Flight Tests. If a student fails the written test, they are individually mentored by their flight instructor and MUST complete the written exam before they move on to subsequent certificates. Students complete this assessment in their introductory year (AVIA 170), Professional year (AVIA 375), and Professional Instruction year (AVIA 475).

Assessment #2 FAA Flight Tests:

The measure demonstrates the flight aptitude relative to ACS/PTS requirements of students at the introductory level (Private Pilot) and is a requirement of AVIA 181, professional pilot level (Commercial AMEL) and AVIA 377, and professional instructor level (MEI), which takes place in AVIA 475.

Assessment #3 Capstone Simulator Project:

The measure demonstrates the ability of students at the mastery level to use develop a plan and implement a successful event utilizing the SDSU Mobile Aviation Lab. This activity takes place in the capstone course (AVIA 489). Students have some latitude into how they carry out this assignment with the emphasis on effective outreach and instruction to others in the community.

Assessment #4 Student Assessment:

This measure will gauge what number of students participate in clubs/organizations/extracurricular activities are part of their college experience. This survey is administered to all aviation students to ensure the largest amount of responses every other year. The purpose of completing this survey is to gather relevant data about the current student population to make changes as necessary. This allows the students to have a voice in the program and help increase communication between the faculty/airport/staff/and students.
(Scheduled for 2015, 2017, 2019, 2021.)

Assessment #5 Graduation (Exit) Interviews:

Due to the relatively small size of the aviation program, all graduating seniors are encouraged to participate in a senior exit interview by appointment with the department head during their final semester. A list of standard questions is developed by the department head and the assessment committee. The interview is led by the department head, transcripts of the interview are prepared by the departmental secretary, and aggregate results are shared with the committee for analysis. A report is generated with responses from the assessment committee based on the input from the graduating seniors.

Assessment #6 Alumni Survey:

Aviation alumni are surveyed every four years via an online survey tool. Every attempt is made to include all graduates of the aviation program. Because of the size of our program, we are able to gather qualitative data from our graduates on an ongoing basis in order to help close the loop on assessment. (Scheduled for 2012, 2016, 2020).

Assessment #7 Introductory Assessment:

For this assessment, the safety plan developed as part of the Aviation Safety Course is used. This assessment is one of the first large integrated aviation programs the students complete, generally in the first or second year in the program in AVIA 200. The purpose of this assignment is for students to develop a culture of safety by writing about a safety related event or procedure using research and reporting in APA format.

Assessment #8 Professional Subject Area Expertise:

Students are required to complete a teaching lesson in AVIA 340 that encompasses a teaching component along with a subject area expertise in an advanced aircraft systems. This assessment demonstrates the students' ability to master a subject area related to aviation as well as hone in on the teaching skills necessary for an aviation educator.

Assessment #9 Demonstrated Instructional Knowledge:

Students will complete a safety seminar briefing as part of AVIA 450: Methods of Teaching in Aviation. Students will be paired up and present on a content area they chose. Additional emphasis is placed on context, delivery, and presentation

Additional data collected:

Student data:

At the end of each semester, the student database will be updated to include who has entered the program (identified by when they first took AVIA 170 or higher course if transferring in), and who has left the program, changed academic standing, or graduated. It will also include placement into positions after graduation. This database will be maintained by the accreditation coordinator with input from the admissions office, other faculty, and the Office of Institutional Research (as necessary to gather data).

Timeline: Collected every Fall semester, reported yearly at assessment meeting.

Faculty and Staff Evaluation:

All faculty members and full time staff are evaluated annually in the fall. Data is obtained from various sources including student feedback, IDEA survey scores, FAA scores, or other verifiable outcomes. Any shortcomings are listed in each person's review and a plan of improvement is developed if needed. Alternative teaching methods, assignments, and objectives, or other variables, are discussed to provide the best plan going forward to address the shortcomings. All faculty action plans are reviewed for effectiveness and scheduled for alternative assessments based on findings.

Timeline: reviewed every year by department head and Dean, changes as necessary to complete mission.

Facilities, Equipment and Services:

Equipment, aircraft, building, and simulator assessment are continually assessed. SDSU Physical plant oversees all maintenance of the airport facilities and the aviation faculty members along with the maintenance staff determine when new aircraft and simulators are required. Major repairs and replacements are brought before the Vice President of Finance and Facilities to determine a timeline and a needs based assessment is completed.

Aircraft are replaced based on need and viability in the program. At this time, we make a concerted effort to reduce costs through the use of aircraft that are mid time airframes.

Based on peer reviewed data and historical usage, we consider a need of one aircraft per 12 students or an increase of 600 hours per primary trainer and 400 on complex/multi aircraft.

Timeline: Evaluated every odd year or as necessary to accomplish goals of the program.

Institutional Structure and Support:

The institutional structure is in limbo quite often within the aviation program. Due to the size of our program, most positions are one person deep and are very dependent on the staffing levels at the time. Typically, the structure and support is reviewed on a yearly basis and is changed as need to correct any shortcomings and to increase program effectiveness. All the aviation program team members are all involved in determining the needs of the program.

Timeline: Requests for institutional support forwarded to Department Head yearly or as needed.

Aviation Safety Culture: (see SDSU Aviation Safety Plan)

Relations with Industry:

Relations with industry are addressed primarily via the Industry Advisory Board but also with employer relations and alumni relations with the faculty. The IAB addresses specific information about the program and offers resolutions to help address any shortcomings and maintain program effectiveness. Additionally, they serve as mentors to students and guest speakers in class. Industry members are routinely called upon to talk in classes, help address specific issues, or help with interview preparation. Continuous review and analysis is done to assure effectiveness of all program desired outcomes.

Timeline: yearly meeting in spring semester

Overview of Assessment techniques related to AABI General, Core Outcomes, and SDSU Aviation Education outcomes.

	Outcome/Objective	FAA written tests	FAA Practical tests	Capstone Simulator project	Student Evaluations	Exit interviews	Alumni Survey	Intro Assessment	Professional Subject Area Expertise	Demonstrated instructional knowledge
AABI General Outcomes	a. An ability to apply knowledge of mathematics, science, and applied sciences	x	x	x						
	b. An ability to analyze and interpret data	x	x	x				x	x	
	c. An ability to function on multi-disciplinary teams			x		x		x	x	x
	d. An understanding of professional and ethical responsibility			x		x	x	x		x
	e. An ability to communicate effectively, including both written and verbal communication skills		x	x				x	x	x
	f. A recognition of the need for, and an ability to engage in, life-long learning				x		x			x
	g. A knowledge of contemporary issues			x		x		x		x
	h. An ability to use the techniques, skills, and modern technology necessary for professional practice		x	x						x
	i. An understanding of the national and international aviation environment		x					x		x
	j. An ability to apply pertinent knowledge in identifying and solving problems.			x			x	x	x	x
	k. An ability to apply knowledge of business sustainability to aviation issues			x						
AABI Core Outcomes	Knowledge of aircraft design, performance, operating characteristics, and maintenance	x	x						x	
	Knowledge of national and international aviation law and regulations	x	x					x	x	
	Knowledge of airports, airspace, and air traffic control	x	x							
	Knowledge of meteorology and environmental issues	x	x							
	Knowledge of aviation safety and human factors	x	x					x	x	x
	Knowledge of attributes of an aviation professional, career planning, and certification	x	x	x	x	x				x
Av Program Outcomes	Apply the general education core to the aviation profession.		x	x	x	x	x	x	x	
	Demonstrate instructional knowledge in single and multi-engine to the FAA commercial pilot standard.	x	x	x						
	Demonstrate instructional knowledge through creating and teaching a relevant aviation topic to colleagues.			x					x	x
AV Program Objectives	Graduates who exhibit excellent aviation technical abilities.	x	x				x		x	x
	Graduates who conduct themselves in a responsible, professional, and ethical manner.			x			x			
	Graduates who participate as active leaders and productive members of their community and profession.					x	x			x

Program Objectives and Outcomes Analysis timeline

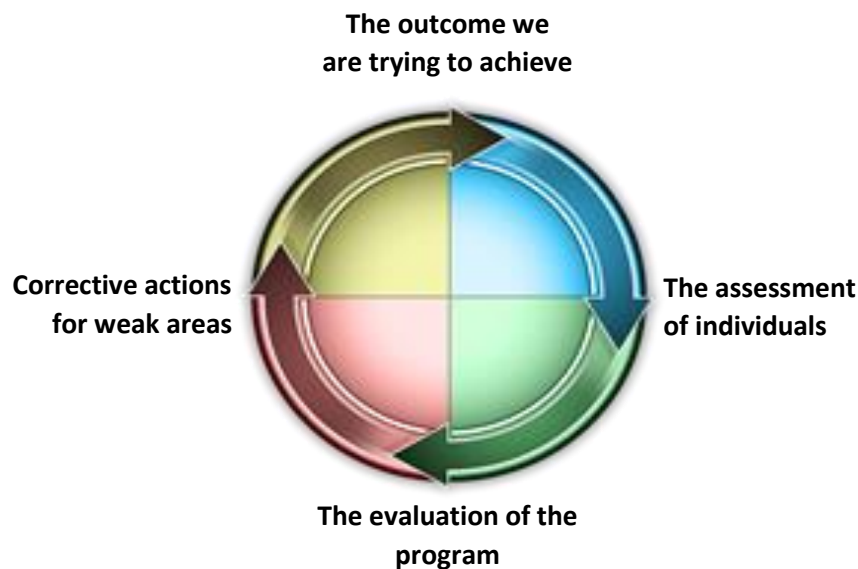
Due to the size and scope of the SDSU Aviation Program, each year in the spring all the assessment techniques will be completed (except for student and alumni survey data) and analyzed as part of our data retreat. This information will be used to evaluate the whole program effectiveness and help in determining any changes needed to address weaknesses. Through the annual data retreat we will evaluate the effectiveness of the program goals, objectives, SLO's, and other assessment perimeters to determine if changes need to be made for the upcoming semester.

All assessment techniques completed annually (when taught) except:

Student Survey: (Scheduled for 2015, 2017, 2019, 2021.)

Alumni Survey: (Scheduled for 2012, 2016, 2020, 2024).

Closing the Loop



SDSU's four-step process to create a stronger program

- (1) What do we expect?
- (2) How do we quantifiably assess whether we are achieving the outcomes?
- (3) How do we evaluate the program's effectiveness (analysis of data findings)?
- (4) Changes required based on the results of our evaluations?

Dissemination of Assessment Results

Aviation Team Meeting

At the end of the spring semester, the aviation program faculty will meet with the department head to discuss the nine assessment techniques and additional data designed to evaluate the program. The purpose of these meetings is to verify all information was collected for the semester, to report findings to other constituents, assign needs, and to evaluate the effectiveness of the program.

Results of Assessment

Use of this assessment plan should result in more significant learning for our students, better overall educational programming, and more informed and engaged faculty members. All recommendations and changes made based on assessment results are tracked and reported annually during the data retreat. The results of the assessment provide a starting point for the next assessment plan in a continuous program.

Assessment Plan Evaluation

Regular evaluation of the assessment plan is essential in order to insure that it accurately assesses the program goals, that the information is shared, and that no items are overlooked. The Assessment Plan is informally evaluated on a continual basis through discussions with target groups and among committee members. The assessment plan is formally assessed at the end of each academic year. This plan is a flexible, working document that is regularly revised to uphold its purpose and usefulness to the aviation program and its students.

Timeline: the Aviation Education Assessment Plan will be reviewed for relevancy every accreditation cycle.

Enrollment Data

Full time students enrolled in Aviation Education in the

Fall 2017 semester: 98 students

Fall 2016 semester: 69 students

Fall 2015 semester: 55 students

Fall 2014 semester: 54 students

Graduation Data:

Spring / Summer / Fall 2017: 7 Aviation Education graduates

Spring / Summer / Fall 2016: 3 Aviation Education graduates

Spring / Summer / Fall 2015: 12 Aviation Education graduates

Enrollment/Graduation Rate Data

*This data is the same that is reported to Integrated Postsecondary Education Data System (IPEDS). Students that were coded in the first time full time bachelor's degree seeking federal cohorts that started in the Aviation Education program their first fall semester (as of census freeze) at SDSU. For definitions of terms please see the IPEDS website.

<i>Fall Cohort</i>	<i>Number of students</i>	<i>Graduated within 6 years</i>	<i>Grad rate</i>
2008FA	11	4	36%
2009FA	11	3	27%
2010FA	12	2	17%
2011FA	11	4	36%

Rates and types of employment of graduates

Last year 85% of Aviation Education graduates were initially employed as flight instructors at SDSU after graduation and one was a corporate pilot (100% job placement). Within one year of graduation, our graduates transitioned as corporate pilots (2), professional flight instructors (3), and freight pilots (2).

Estimated average graduate salary is \$40,200.