Program Objectives
The following Aviation Program objectives have been established:

Societal Relevance and a Community Resource
• Increase opportunities for undergraduate and graduate student academic success and prepare the student for entry into the aviation community upon graduation by strengthening collaboration and partnership efforts with the air transportation industry.
• Seek business and industry input to academic program development to ensure graduates are trained and educated to meet the needs of the air transportation industry.
• Increase collaborative research opportunities with other University Aviation Association (UAA) colleges and universities, particularly those accredited by the Council on Aviation Accreditation, by expanding the graduate program.
• Increase the number of collaborative relationships or partnerships between ASU and businesses, organizations, government agencies, etc.
• Continue to develop specific high altitude physiology short course formats to serve the needs of the air transportation industry that will make the altitude chamber operation self-sufficient.

Campus Community and Learning Environment
• Attract all qualified undergraduate and graduate students, enhance the number of special opportunities available, increase student academic success, and increase and promote faculty and student involvement in community and public service activities.
• Increase the percent of faculty involved in providing consulting or professional services to the general community.
• Actively enhance opportunities on ASU’s Polytechnic campus for women, minorities, individuals with disabilities and veterans, which will prepare the student for transition into the international aviation community upon graduation by developing an appreciation and respect for diversity in the workplace.

**Core Academic Experiences**
• Create and improve resources available on ASU’s Polytechnic campus for instruction, research and creative activity, and professional service.
• Develop opportunities for faculty with extramural funding for research and/or creative activity.
• Increase the percentage of faculty significantly involved in publications, applied projects and professional service, and the number of graduate students supported by extramural funding.

**Professional Preparation**
• Continue to prepare students with realistic airline-type training and education to easily transition into flight positions.
• Continue to develop the air transportation management concentration by revising the curricula based upon input from industry leaders and, in particular, the Aviation Program Industry Advisory Board.
• Provide students with additional employment opportunities by providing airline dispatcher courses.
• Continue to develop the Air Traffic Management Program by revising the curricula to incorporate changes in the technology, equipment, and procedures used by air traffic controllers and the aviation industry.
• Increase the number of undergraduate and graduate students holding internships during the year. Identify funding sources to increase learning opportunities by integrating leading-edge technology into current academic class activities.
• Continue to develop and improve the academic and operational efficiency of the altitude chamber, and integrating a high-altitude chamber experience into the professional flight and the air transportation management curricula.

**Scholarship**
• Maintain and improve the intellectual and cultural environment on campus, as well as to identify opportunities for faculty scholarship.
• Increase external funds generated for instruction, research and creative activities, and professional service.
• Increase opportunities for collaborative research with industry and government agencies, and identify areas of possible application for developing technologies to solve current industry problems, such as airport/aircraft noise, hazardous materials, pollution, airport/aircraft security, and air transportation education and training.
• Continue to develop specific research agendas for the high altitude physiology program, pilot screening and selection, and other areas particularly pertaining to applied research and teaching.

**Program Assessment Measures**

The Aviation Program requires that all courses be evaluated at the conclusion of the academic year with enhancements implemented prior to the fall semester. Courses may also be modified between fall and spring semesters as necessary.

The Arizona State University Academic Program Assessment Report is completed on a yearly basis to also assess learning objectives and program outcomes. This assessment includes a specified measure, performance criterion, results, observations, and program self-assessment. An example of this assessment follows.

Modifications and enhancements to courses and the academic programs are based on input from industry employers, the Aviation Industry Advisory Board (AIAB), evaluation of student achievement by faculty as well as annual assessments conducted by the ASU Office of Evaluation and Educational Effectiveness (UOEEE). Additionally, some changes may also be implemented to conform with Aviation Accreditation Board, International (AABI) accreditation criteria.
Please describe your program’s assessment process and specific assessment activities during the 2016-17 academic year. Please include who was involved and how they were engaged in assessment activities.

- The Program assessment process involves reviewing program objectives each academic year to ensure they meet the requirements of the Federal Aviation Administration’s (FAA) Air Traffic- Collegiate Training Initiative (AT-CTI) program. It also includes reviewing course syllabi to ensure objectives and outcomes are both current and relevant for the career field.
- The Air Traffic Management faculty collaborated in an assessment of the FAA’s requirement for ASU’s AT-CTI program to be in compliance with their Air Traffic Basics curriculum. This process included creating a matrix to cross-check the FAA requirements are being met by the Air Traffic Management programs curriculum. The course syllabi are reviewed by each faculty member.

If no data were collected for this program during 2016-17, please use the space below to note the reason and describe the strategies in place to ensure that data collection will occur during 2017-18, and then continue to the last page of this report and provide any changes to your current assessment plan.

- NA

During the 2016-17 academic year, what changes have been made to the program, curriculum, and/or instruction? Why were these changes made? Please discuss how those changes were implemented and their intended impact on student learning.

- None
**Outcome 1**  
*Apply air traffic procedures, in an air traffic simulator environment*

What do these results indicate about the extent to which students from this program possess the knowledge or skill reflected in Outcome 1? How do your results support this conclusion? Please use the space below to indicate whether or not each performance criterion was met and to describe components of the program you believe contributed to this result.

- The results indicate that students from this program possess the knowledge and skill necessary to properly separate and sequence air traffic in an air traffic simulation tower environment, during light-to-moderate traffic volumes, using procedures as specified by FAAO 7110.65.
- The results support this conclusion. Students were evaluated during a simulated air traffic scenario. The evaluation utilized a modified training evaluation form used by air traffic control tower facilities.
- The part-task simulator lab (ICE and ICE SIM) in SIM 101 allows students to access training simulators 24 hours/day, 7 days/week. The lab allows students to learn the objectives of each lesson and then apply this knowledge during simulation scenarios designed to emphasize the training objectives.

Outcome 1 met?
- Yes

**MEASURE 1.1: FAA form 3120-25 (5-98) Modified for use in ATC 431**
Performance Criterion 1.1: 90% of students will achieve a passing score of 70% or better when evaluated during air traffic simulation exercises utilizing the tower simulator

Was the Performance Criterion Met?
- Yes

Results:
- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 28 of the 30 evaluation scores (93%) were 70% or higher.

Number of Observations Included in Assessment (e.g., number of students, papers, projects):
- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 28 of the 30 evaluation scores (93%) were 70% or higher.

Proportion of Target Population Assessed:
- 100%

Data Collection Challenges or Issues [if applicable]:
- None
MEASURE 1.2: *Intelligent Communication Environment (ICE) scoring tool*

Performance Criterion 1.2: 90% of students will achieve a passing score of 70% or better when evaluated during air traffic simulation exercises utilizing the ICE simulator

Was the Performance Criterion Met?

- Yes

Results:

- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 29 of the 30 evaluation scores (97%) were 70% or higher.

Number of Observations Included in Assessment (e.g., number of students, papers, projects):

- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 29 of the 30 evaluation scores (97%) were 70% or higher.

Proportion of Target Population Assessed:

- 100%

Data Collection Challenges or Issues [if applicable]:

- None
**Outcome 2**

*Apply proper air traffic phraseology in an air traffic simulator environment*

What do these results indicate about the extent to which students from this program possess the knowledge or skill reflected in Outcome 2? How do your results support this conclusion? Please use the space below to indicate whether or not each performance criterion was met and to describe components of the program you believe contributed to this result.

- The results indicate that students from this program possess the knowledge and skill necessary to properly separate and sequence air traffic in an air traffic simulation tower environment, during light-to-moderate traffic volumes, using procedures as specified by FAAO 7110.65.
- The results support this conclusion. Students were evaluated during a simulated air traffic scenario. The evaluation utilized a modified training evaluation form used by air traffic control tower facilities.
- The part-task simulator lab (ICE and ICE SIM) in SIM 101 allows students to access training simulators 24 hours/day, 7 days/week. The lab allows students to learn the objectives of each lesson and then apply this knowledge during simulation scenarios designed to emphasize the training objectives.

Outcome 2 met?
- Yes

**MEASURE 2.1: FAA form 3120-25 (5-98) Modified for use in ATC 431**

Performance Criterion 2.1: 90% of students will achieve a passing score of 70% or better when evaluated during air traffic simulation exercises utilizing the tower simulator. 75% or more of students will pass their comprehensive exam

Was the Performance Criterion Met?
- Yes

Results:
- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 28 of the 30 evaluation scores (93%) were 70% or higher.
- 13 students completed the Comprehensive exam, 100% passed.

Number of Observations Included in Assessment (e.g., number of students, papers, projects):
- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 28 of the 30 evaluation scores (93%) were 70% or higher.
- Total of 13 students completed the Comprehensive exam, 100% passed.

Proportion of Target Population Assessed:
- 100% for the evaluation.
- 13 of 15 students turned in the Comprehensive exam (87%)

Data Collection Challenges or Issues [if applicable]:
- None
MEASURE 2.2: *Intelligent Communication Environment (ICE) scoring tool*

Performance Criterion 2.2: 90% of students will achieve a passing score of 70% or better when evaluated during air traffic simulation exercises utilizing the ICE simulator

Was the Performance Criterion Met?
- Yes

Results:
- Total of 15 students, each student completed 2 evaluations for a total of 30 evaluations. 29 of the 30 evaluations (97%) were 70% or higher.

Number of Observations Included in Assessment (e.g., number of students, papers, projects):
- Total of 15 students, each student completed 2 evaluations for a total of 30 evaluations. 29 of the 30 evaluations (97%) were 70% or higher.

Proportion of Target Population Assessed:
- 100%

Data Collection Challenges or Issues [if applicable]:
- None
**Outcome 3**

Demonstrate an understanding of relevant Federal Aviation Administration (FAA) Order 7110.65 information pertaining to air traffic control tower operations

What do these results indicate about the extent to which students from this program possess the knowledge or skill reflected in Outcome 3? How do your results support this conclusion? Please use the space below to indicate whether or not each performance criterion was met and to describe components of the program you believe contributed to this result.

- Written exams tested student knowledge of FAAO 7110.65 requirements as it pertains to Terminal Tower operations. The semester average for all student scores on the written exam was 84%.
- The part-task simulator lab (ICE and ICE SIM) in SIM 101 allows students to access training simulators 24 hours/day, 7 days/week. The lab allows students to learn the objectives of each lesson and then apply this knowledge during simulation scenarios designed to emphasize the training objectives. This reinforces the students understanding of the rules, regulations, and procedures and helps clarify the concepts as discussed in the FAA’s Order 7110.65.

Outcome 3 met?
- Yes

**MEASURE 3.1: Written exams**

Performance Criterion 3.1: 80% of students will achieve a passing score of 70% or better on written exams.

Was the Performance Criterion Met?
- Yes

Results:
- Total of 15 students, 13 students completed all 3 exams, 1 student completed two exams, 1 student completed 1 exam. An average score for the 13 students that completed all 3 exams was calculated and 13 of the 13 students averaged 70% or higher.

Number of Observations Included in Assessment (e.g., number of students, papers, projects):
- Total of 15 students, 13 students completed all 3 exams, 1 student completed two exams, 1 student completed 1 exam. An average score for the 13 students that completed all 3 exams was calculated and 13 of the 13 students averaged 70% or higher.

Proportion of Target Population Assessed:
- 87%

Data Collection Challenges or Issues [if applicable]:
- None
**MEASURE 3.2: FAA Form 3120-25 (5-98) Modified for use in ATC 431 class**

**Performance Criterion 3.2:** 90% of students will achieve a passing score of 70% or better when evaluated during air traffic simulation exercises utilizing the tower simulator.

Was the Performance Criterion Met?
- Yes

**Results:**
- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 28 of the 30 evaluation scores (93%) were 70% or higher.

**Number of Observations Included in Assessment (e.g., number of students, papers, projects):**
- Total of 15 students, each student completed 2 evaluations, for a total of 30 evaluation scores. 28 of the 30 evaluation scores (93%) were 70% or higher.

**Proportion of Target Population Assessed:**
- 100%

**Data Collection Challenges or Issues [if applicable]:**
- None

**Outcome 4**

*Demonstrate an understanding of aviation-related topics as required by the FAA’s Air Traffic-Collegiate Training Initiative Program*

What do these results indicate about the extent to which students from this program possess the knowledge or skill reflected in Outcome 4? How do your results support this conclusion? Please use the space below to indicate whether or not each performance criterion was met and to describe components of the program you believe contributed to this result.

- Written exams tested student knowledge of FAAO 7110.65 requirements as it pertains to Terminal Tower operations. The semester average for the 13 students that completed all 3 written exams was 85%.
- The average score for the 13 students that completed the Air Traffic Basics Comprehensive Test was 96%.
- The part-task simulator lab (ICE and ICE SIM) in SIM 101 allows students to access training simulators 24 hours/day, 7 days/week. The lab allows students to learn the objectives of each lesson and then apply this knowledge during simulation scenarios designed to emphasize the training objectives. This reinforces the students understanding of the rules, regulations, and procedures and helps clarify the concepts as discussed in the FAA’s Order 7110.65.

Outcome 4 met?
- Yes
MEASURE 4.1: Air Traffic Basics Comprehensive Test
Performance Criterion 4.1: 90% of students will achieve a passing score of 70% or better on the Air Traffic Basics Comprehensive Test
   Was the Performance Criterion Met?
   • Yes

   Results:
   • Total of 13 students completed the Comprehensive Test. 13 of the 13 students (100%) averaged 70% or higher.

   Number of Observations Included in Assessment (e.g., number of students, papers, projects):
   • Total of 13 students completed the Comprehensive Test. 13 of the 13 students (100%) averaged 70% or higher.

   Proportion of Target Population Assessed:
   • 87%

   Data Collection Challenges or Issues [if applicable]:
   • None

MEASURE 4.2: Written exams
Performance Criterion 4.2: 80% of students will achieve a passing score of 70% or better on written exams
   Was the Performance Criterion Met?
   • Yes

   Results:
   • Total of 15 students, 13 students completed all 3 exams, 1 student completed two exams, 1 student completed 1 exam. An average score for the 13 students that completed all 3 exams was calculated and 13 of the 13 students averaged 70% or higher.

   Number of Observations Included in Assessment (e.g., number of students, papers, projects):
   • Total of 15 students, 13 students completed all 3 exams, 1 student completed two exams, 1 student completed 1 exam. An average score for the 13 students that completed all 3 exams was calculated and 13 of the 13 students averaged 70% or higher.

   Proportion of Target Population Assessed:
   • 87%

   Data Collection Challenges or Issues [if applicable]:
   • None
**Program Self-Assessment**

Please summarize how the assessment results for the 2016-17 academic year will impact your academic program in the coming year. Consider what the assessment data indicate are programmatic strengths or weaknesses and areas of possible development.

- It validates the program’s goal of preparing graduates to be successful in the air traffic control career by ensuring they learn not only the basic requirements of the FAA’s AT-CTI program, but also the requirements/procedures for properly separating aircraft in a Terminal Tower environment.
- The program’s strengths are:
  - The faculty, all are aviation professionals in their respective area of expertise
  - Simulation training
  - Internship program

Please summarize how the assessment results for the 2016-17 academic year will impact your assessment process for the coming year. Please consider revisions to your plan, sampling strategies, data collection, or any other areas.

- We do not expect the results to impact our assessment process for the coming year. The results indicate that the program is meeting the goals that have been established.
Graduation Rate and Types of Employment

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Year</th>
<th>Number of Graduates</th>
<th>Graduation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Traffic Management</td>
<td>2017</td>
<td>8</td>
<td>65%</td>
</tr>
</tbody>
</table>

Types of Employment:
- Aviation Management
- Continuing Education
- Government Agencies

Our graduates have been hired by a range of aviation companies and government agencies, to include:

- Crane Aerospace
- Federal Aviation Administration
- Harris Corporation