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PURDUE UNIVERSITY	Purdue University
	Purdue Polytechnic Institute, School of Aviation & Transportation
	Bachelor of Science in Professional Flight Technology Bachelor of Science in Aviation Management
December 3, 2021	Student Achievement Data

For each AABI-accredited program, AABI Policy 3.4.2 requires institutions to accurately publish on the program's public website, a report of student achievement data including the following information, updated annually:

- The objectives of each accredited program
- Program assessment measures employed
- Graduation rates
- Rates and types of employment of graduates

Purdue University's School of Aviation and Transportation Technology has two AABIaccredited programs:

- Bachelor of Science in Professional Flight Technology
- Bachelor of Science in Aviation Management

This document presents mission statements, program objectives/competencies, assessment methods employed, graduation rates and rates and types of employment for each accredited degree program.

Mission Statements

Purdue University Mission Statement

Founded in 1869, Purdue University's mission is to share the land-grant ideal laid out under the 1862 Morrill Act by providing access to a liberal, practical education to the public. Purdue is a recognized member of the American Association of Universities (AAU), the Association of Public and Land-Grant Universities (APLU), and Universities Research Association (URA).

School Mission Statement

The mission of the School of Aviation and Transportation Technology complements and strongly supports the mission of Purdue University in serving the citizens of the State of Indiana, the nation, and the world, through learning, discovery, and engagement activities. Specifically, the School's mission statement is as follows:

• The mission of the School of Aviation and Transportation Technology is to prepare the next generation of leaders and change agents for the transportation sector.

Program Educational Goals (PEGs) and Competencies

Bachelor of Science in Professional Flight Technology

Consistent with the mission of the School, the mission of the Professional Flight Technology program is as follows:

• The mission of the Professional Flight program is to prepare the next generation of professional pilots and leaders in flight operations.

The Professional Flight faculty and the Industry Advisory Board have identified six programlevel competencies that map across the previously used program educational goals. The competency-based assessment provides the additional advantage of both rigorous as well as progressive assessment of students' attainment of requisite knowledge, abilities, and skills throughout their educational experience:

- 1. Leadership
- 2. Technical Excellence
- 3. Decision-Making
- 4. Communication
- 5. Teamwork
- 6. Resilience

Three levels of performance were identified for each competency: emerging (level 1), developing (level 2), and proficient (level 3). Instruments of direct measures and the corresponding assessment rubrics are being developed, implemented, and improved upon.

Bachelor of Science in Aviation Management

Consistent with the mission of the School, the mission of the Aviation Management program is as follows:

• The mission of the Aviation Management program is to prepare the next generation of airline and airport executives.

The Aviation Management faculty and the Industry Advisory Board have identified six programlevel competencies that map across the previously used program educational goals. The competency-based assessment provides the additional advantage of both rigorous as well as progressive assessment of students' attainment of requisite knowledge, abilities, and skills throughout their educational experience:

- 1. Leadership
- 2. Subject Matter Excellence
- 3. Ethics and Integrity
- 4. Communication
- 5. Teamwork
- 6. Individual Resilience and Innovation

Three levels of performance were identified for each competency: emerging (level 1), developing (level 2), and proficient (level 3). Instruments of direct measures and the corresponding assessment rubrics are being developed, implemented, and improved upon.

Program Assessment Measures Employed

Bachelor of Science in Professional Flight Technology

Introduction

In keeping with the competency-based approach, the program educational goal for the baccalaureate degree in Professional Flight Technology is as follows:

At least 80% of the graduates of the B.S. in Professional Flight Technology program at Purdue will demonstrate proficient-level competency in the following areas:

- 1. Leadership
- 2. Technical Excellence
- 3. Decision-Making
- 4. Communication
- 5. Teamwork
- 6. Resilience
- 1. Leadership

Graduates of the Professional Flight Program at Purdue University will integrate and display the cognitive, interpersonal, business, and strategic leadership skills that will enable them to seek new information and adapt their behavior and work methods in response to changing conditions; learn, adapt, and lead others in order to successfully navigate organizational changes; use critical thinking to analyze the weaknesses and strengths of different approaches to problem solving; will display a professional commitment to ethical practices, revise leadership processes, and adapt to facilitate achievement of professional goals in effective interpersonal and group interactions; and will utilize leadership abilities in harmony with their technical skills, level of authority, and responsibility.

The faculty and the Industry Advisory Board considered various aspects of leadership, particularly as they apply to the success of professional pilots. They identified the following sub-competencies and their corresponding levels of performance:

- 1. Demonstrates the knowledge, skills, and abilities to manage, lead, and empower others to efficiently address organizational and group needs and objectives
 - a. <u>Emerging</u>: Explains team members about issues requiring resolution and considers input; Identifies the need to distribute workload among others to ensure they meet key deliverables; Recognizes team members as resources for ideas and for achieving common goals.
 - b. <u>Developing</u>: Encourages others to share skills and abilities within work group to facilitate completion of challenging tasks; Seeks feedback from others and opportunities for self-learning and development, always learning from their experiences.
 - c. <u>Proficient</u>: Promotes cohesiveness of a team by defining roles and responsibilities of each team member and establishing individual and overall objectives; Holds self and other team members accountable for achieving results; Provides leadership, direction and constructive feedback on team and individual objectives.

- 2. Manages and resolves conflicts and disagreements in a constructive manner.
 - a. <u>Emerging</u>: Takes actions to address individual grievances; Ensures individuals receive mediation to mediation to resolve issues affecting the workgroup; Implements changes to ensure work environment is fair and equitable based on employee concerns.
 - b. <u>Developing</u>: Takes actions to address behavior issues to ensure individuals treat each other with respect; Recognizes conflict and takes steps to address issues by meeting with the involved parties.
 - c. <u>Proficient</u>: Resolves conflicts arising at any level due to competing objectives, limited resources, or differing perspective; Uses collaboration effectively as a style of managing contention; Confronts conflict positively and constructively to minimize impact to self, others, and the organization.

This competency maps to the following AABI General Student Learning Outcomes: (d) Make professional and ethical decisions and

(1) Apply knowledge of business sustainability to aviation issues

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in leadership by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging- to developing- and finally to proficient-level of performance in leadership.

2. <u>Technical Excellence</u>

Graduates of the Professional Flight Program at Purdue University will attain flight certificates and ratings required for entry-level professional pilot positions; will have the ability to operate in the complex aviation system efficiently and safely; will demonstrate sound understanding of risk management, mitigation, and decision-making in normal, abnormal, and emergency situations; and they will complete advanced (or value added) flight and simulator training that will distinguish their technical excellence.

The faculty and the Industry Advisory Board considered various aspects of technical excellence, particularly as they apply to the success of professional pilots. They identified the following sub-competencies and their corresponding levels of performance:

1. Airmanship

- a. <u>Emerging</u>: Demonstrates Airmen Certification Standards for the appropriate certificates and ratings.
- b. <u>Developing</u>: Reflects upon strengths and weaknesses pertaining to the ACS. Identifies appropriate resources to address weakness and improve strengths. Creates goals towards the progression to transport category aircraft and or CFI and provides evidence towards achieving goals.
- c. <u>Proficient</u>: Exhibits orientation toward teams and transitions from SRM to CRM. Operates safely and effectively in the national airspace system while integrating leadership, communication, teamwork, resilience, and decision-making.

- 2. Integration of certification standards with academic standards and competencies.
 - a. <u>Emerging</u>: With coaching, recalls and practices basic skills to self-evaluate performance, set goals, and monitors their own progress towards advancement in all competencies.
 - b. <u>Developing</u>: With minimal coaching reflect upon one's professionalism, knowledge, skills, and abilities. Creates a critical self-evaluation and provides objective evidence towards improvement.
 - c. <u>Proficient</u>: Exhibits life-long learning habits such as creating goals, utilizing resources and demonstrating the ability to conduct themselves in accordance to discipline professional standards.

This competency maps to the following AABI General Student Learning Outcomes:

- (a) Apply mathematics, science, and applied sciences to aviation related disciplines and
- (i) Use the techniques, skills, and modern technology necessary for professional practice.

This competency also maps to ALL the AABI Core Student Learning Outcomes:

- 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 on aviation operations of international aviation law, including applicable International Civil Aviation Organization (ICAO) or other international standards and practices; and applicable national aviation law, regulations and labor issues.
- 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.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in technical excellence by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging- to developing- and finally to proficient-level of performance in technical excellence.

3. Decision-Making

Graduates of the Professional Flight Program at Purdue University will demonstrate appropriate decision-making which will allow them to understand and solve complex problems, including those related to aviation safety, advanced technology, and a wide range of technical matters, as well as abstract concepts.

The faculty and the Industry Advisory Board considered various aspects of decisionmaking, particularly as they apply to the success of professional pilots. They identified the following sub-competencies and their corresponding levels of performance:

- 1. Applies appropriate decision-making process
 - a. <u>Emerging</u>: Reflects upon their current understanding of decision-making

processes in different contexts. Recognizes when a decision-making process is needed. Selects appropriate decision-making process. Applies decision-making process to completion with coaching.

- b. <u>Developing</u>: Can identify various decision-making processes within the discipline and for various contexts. Applies the proper decision-making process in for the appropriate context. Demonstrates the ability to gather accurate qualitative and quantitative data. Demonstrates the ability to interpret data with a critical view.
- c. <u>Proficient</u>: Demonstrates an understanding of how their decision-making can impact outcomes. Can articulate their reasoning for making the decision and or argument and can analyze their own strengths and weaknesses through reflective exercises.
- 2. Demonstrates the ability to address complex issues
 - a. <u>Emerging</u>: With coaching can demonstrate the ability to follow a process and reflect on areas of improvement.
 - b. <u>Developing</u>: Applies decision-making processes without assistance and can critique others; Can combine decision-making processes and make judgements.
 - c. <u>Proficient</u>: Proactively demonstrates the ability to present arguments and perspectives as well as act upon appropriately based on factual information without coaching.

This competency maps to the following AABI General Student Learning Outcomes:

- (b) Analyze and interpret data;
- (h) Assess contemporary issues; and
- (j) Assess the national and international aviation environment.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in decision-making by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging- to developing- and finally to proficient-level of performance in decision-making.

4. Communication

Graduates of the Professional Flight Program at Purdue University will select the proper modes of communication in various contexts; demonstrate the ability to gather information and deliver content utilizing all three communication modes; achieve the ability to critique their own work and that of others; and demonstrate effective oral, nonverbal and written communications, in normal and non-normal situations.

The faculty and the Industry Advisory Board considered various aspects of communication, particularly as they apply to the success of professional pilots. They identified the following sub-competencies and their corresponding levels of performance:

- 1. Students should be able to understand the different modes and contexts when communicating.
 - a. Emerging: Recalls and recognizes basic concepts and terms of context, audience,

purpose, and to the assigned task(s) (e.g., expectation of instructor or self as audience).

- b. <u>Developing</u>: Demonstrates adequate application of context, audience, and purpose and a clear focus on the assigned task(s) (e.g., the task aligns with audience, purpose, and context).
- c. <u>Proficient</u>: Demonstrates a thorough understanding on how to meet communicative needs for context, audience, and purpose.
- 2. Create messages appropriate to the context, audience, and purpose.
 - a. <u>Emerging</u>: With coaching, recalls and practices basic principles appropriate to a specific task(s) for basic organization, content, and presentation.
 - b. <u>Developing</u>: Consistently demonstrates effective use of important conventions particular to a specific discipline and/or writing task(s), including organization, content, presentation, and stylistic choices.
 - c. <u>Proficient</u>: Without coaching, demonstrates detailed attention to and successful execution of a wide range of conventions particular to a specific discipline and/or writing task (s) including organization, content, presentation, formatting, and stylistic choices.
- 3. Critically analyze messages.
 - a. <u>Emerging</u>: Remembers concepts with coaching intervention required, on sources and begins to use credible and/or relevant sources to support ideas that are appropriate for the discipline and genre of the writing. Is able to identify communication errors.
 - b. <u>Developing</u>: Consistently applies use of credible and relevant sources to support ideas that are situated within the discipline including writing. Is able to find errors in their own work and others.
 - c. <u>Proficient</u>: Demonstrates skillful use of high-quality, credible, relevant sources to evaluate ideas and or information that are appropriate for the discipline, including writing. Can create written documents with accurate citations. Can critique, analyze, and correct errors consistently and independently.

This competency maps to the following AABI General Student Learning Outcomes:

- (e) Communicate effectively, using written communication skills and
- (f) Communicate effectively, using oral communication skills.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in communication by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging- to developing- and finally to proficient-level of performance in communication.

5. Teamwork

Graduates of the Professional Flight Program at Purdue University will display a teamwork orientation; demonstrate the ability to communicate effectively with team members; adapt, adjust, and consider alternative perspectives while working towards

group goals; demonstrate the ability to direct and coordinate group activities, motivate team members, seek and assess information that improves team performance, and solve problems and manage conflicts; value group activities and perceive them as opportunities to learn and grow, improve individual and group performance, and to provide creative and comprehensive solutions to complex sociotechnical system problems.

The faculty and the Industry Advisory Board considered various aspects of teamwork, particularly as they apply to the success of professional pilots. They identified the following sub-competencies and their corresponding levels of performance:

- 1. Demonstrates the knowledge, skills, and abilities to manage, lead, and empower others to efficiently address organizational and group needs and objectives.
 - a. <u>Emerging</u>: Explains team members about issues requiring resolution and considers input; Identifies the need to distribute workload among others to ensure they meet key deliverables; Recognizes team members as resources for ideas and for achieving common goals.
 - b. <u>Developing</u>: Encourages others to share skills and abilities within work group to facilitate completion of challenging tasks; Seeks feedback from others and opportunities for self-learning and development, always learning from their experiences.
 - c. <u>Proficient</u>: Promotes cohesiveness of a team by defining roles and responsibilities of each team member and establishing individual and overall objectives; Holds self and other team members accountable for achieving results; Provides leadership, direction and constructive feedback on team and individual objectives
- 2. Manages and resolves conflicts and disagreements in a constructive manner.
 - a. <u>Emerging</u>: Takes actions to address individual grievances; Ensures individuals receive mediation to resolve issues affecting the workgroup; Implements changes to ensure work environment is fair and equitable based on employee concerns.
 - b. <u>Developing</u>: Takes actions to address behavior issues to ensure individuals treat each other with respect; Recognizes conflict and takes steps to address issues by meeting with the involved parties.
 - c. <u>Proficient</u>: Resolves conflicts arising at any level due to competing objectives, limited resources, or differing perspective; Uses collaboration effectively as a style of managing contention; Confronts conflict positively and constructively to minimize impact to self, others, and the organization.

This competency maps to the following AABI General Student Learning Outcome: (c) Work effectively on multi-disciplinary and diverse teams.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in teamwork by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging- to developing- and finally to proficient-level of performance in teamwork.

6. <u>Resilience</u>

Graduates of the Professional Flight Program at Purdue University will integrate and display the resilience skills that will enable them to adapt to changing circumstances; perceive failures and challenges as opportunities to learn and develop; apply their problem-solving abilities using an action-oriented approach; display a commitment to communicating and accepting fresh perspectives on a problem; and display the resilience competence that is in harmony with their technical skills, level of authority, and responsibility.

The faculty and the Industry Advisory Board considered various aspects of resilience, particularly as they apply to the success of professional pilots. They identified the following sub-competencies and their corresponding levels of performance:

- 1. Demonstrates the knowledge, skills, and abilities to focus and think clearly while under pressure.
 - a. <u>Emerging</u>: Is able to maintain composure and direction in high-pressure situations; Demonstrates flexibility when plans or situations change unexpectedly.
 - b. <u>Developing</u>: Remains determined despite frequent obstacles; Anticipates problems and proactively designs contingency plans; Perseveres on project despite changing objectives, deliverables, and deadlines.
 - c. <u>Proficient</u>: Creates new processes and systems to get around obstacles; Prioritizes work duties for maximum efficiency while under pressure; Demonstrates tenacity, persevering through significant challenges to reach goals.
- 2. Uses an action-oriented approach and objective approach to problem-solving.
 - a. <u>Emerging</u>: Demonstrates the ability to be adaptable and work successfully within a variety of changing situations and with various individuals or groups; Gathers information from multiple relevant sources and stakeholders when problem-solving. Is able to accept personal mistakes, admit to them, and learn from them.
 - b. <u>Developing</u>: Generates imaginative ideas to overcome obstacles; Is able to see solutions instead of just problems and to think more widely and creatively. Adjusts priorities quickly and effectively as situations change.
 - c. <u>Proficient</u>: Performs effectively when faced with time pressures, adversity, disappointment, and/or opposition; Displays effective communication skills and the ability to seek out support in order to achieve positive outcomes; Reconciles conflicting and/or incomplete information to develop solution; Thinks clearly and makes rational and effective decisions under pressure. Is able to bounce back from failures and/or disappointments.

This competency maps to the following AABI General Student Learning Outcomes: (g) Engage in and recognize the need for life-long learning and (k) Apply pertinent knowledge in identifying and solving problems

(k) Apply pertinent knowledge in identifying and solving problems.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in resilience by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of

students from emerging- to developing- and finally to proficient-level of performance in resilience.

Assessment Timeline

Once the competencies and their proficiency levels were established, an implementation and assessment timeline was developed. Table 1 illustrates this timeline. Since the competencies were finalized at the end of fall 2019, the implementation was intended to start in spring 2020. Unfortunately, due to COVID-19 disruption, the faculty had to pivot to completely online instruction in the second half of spring 2020, strict protective and social distancing measures as well as option of online instruction in fall 2020, an alternate academic calendar and attendance expectations in spring 2021, and ultimately resuming almost normal instruction in fall 2021. A timeline illustrating the University's guidance and response since February 4, 2020 is available at https://protect.purdue.edu/timeline/. In spite of these disruptions and changes to the academic calendars, the faculty and the students remained focused on their instructional objectives. However, the discussions regarding implementation of competencies and their assessment, as planned were limited. In fall 2021, the faculty conducted a review of the implementation and assessment status and adjusted the timeline to be consistent with the current reality.

Table 1. Implementation and A	Assessment Timeline.
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Task	Target Date
Deploy Communication, Decision-Making, and Teamwork into identified courses	August 2019
Evaluate Baseline data for Communication, Decision-Making, and Teamwork	December 2019
Implement Changes for Communication, Decision-Making, and Teamwork	Started in January 2020
Deploy Resilience, Leadership, and Technical Excellence into identified courses	Started in January 2020
COVID-19 DISRUPTION	March 2020- August 2021
Identified Competency-Based Training	January – May
-Behavioral based assessment	2022
-Assessment level alignment	
-Direct and indirect measures	
Implement Changes for Communication, Decision-Making, and Teamwork	Restart August 2022
Deploy Resilience, Leadership, and Technical Excellence into identified	Restart August
courses	2022
Evaluate data from all six competencies that were implemented into the	November 2022
identified courses	
Conduct annual review detailing outcomes of the evaluation process	December 2022
Distribute annual student achievement data to faculty and administration	December 2022

<u>Outcomes, Evaluation Methods and Feedback loop for the B.S. in Professional Flight</u> <u>Technology Program</u>

Leadership was assessed at the emerging or Level 1 proficiency in AT144, at developing or Level 2 proficiency in AT354, and at the proficient or Level 3 proficiency in AT416. Technical Excellence was assessed at the emerging or Level 1 proficiency in AT144, at developing or Level 2 proficiency in AT249, and at the proficient or Level 3 proficiency in AT354. Decision-Making was assessed at the emerging or Level 1 proficiency in AT223, at developing or Level 2 proficiency in AT254, and at the proficient or Level 3 proficiency in AT388. Communication was assessed at the emerging or Level 1 proficiency in AT223, at developing or Level 2 proficiency in AT327, and at the proficient or Level 3 proficiency in AT498. Teamwork was assessed at the emerging or Level 1 proficiency in AT144, at developing or Level 2 proficiency in AT254, and at the proficient or Level 3 proficiency in AT498. Resilience was assessed at the emerging or Level 1 proficiency in AT249, at developing or Level 2 proficiency in AT327, and at the proficient or Level 3 proficiency in AT416. All flight faculty addressed delivery of content, assessment methods, and results to ensure the process is in alignment with program competencies. Additionally, faculty discussed the appropriateness, effectiveness, and efficiency of the data collection. In order to guide the evaluation process and annual reports, the following questions were used:

• How did the content delivery and competency assessment work?

- AT14400 The content for the teamwork module was presented in several inclass modules that covered topics that were introduced through Camtasia videos in Brightspace and then discussed in groups of 4 while in class. At the completion of the in-class modules a survey was sent around to all of the students regarding the group dynamics within the course. Students answered questions on group member participation, workload distribution, individual connection to content, conflict resolution, needed changes to module structure, and content changes to module information. Specifically, the questions regarding group dynamics were reviewed in the assessment of the teamwork competency.
- AT223 The content for both the communication and decision-making competencies was delivered through presentations, assigned reading materials, three case studies, and in-class discussions. Case studies, group project, presentations, and quizzes did work well to assess both the decision-making and communication competencies. It may be difficult to evaluate / assess students individually, especially for the decision-making competency. On the other hand, through observations and constant feedback the instructor could help students meet the standards of performance for both the communication and decision-making competencies.
- AT254 The content for both decision making and teamwork were assessed by instructor observation and review of content presentation throughout the semester. The course was structured around the Commercial Airmen Certification Standards and was framed around group responsibility with individual accountability. A comprehensive review of the ACS was done individually by each student and systemic areas of weakness were identified for each item within the Knowledge, Risk Management, and Skills sections of the ACS. Instances where the entire class felt like they were at less than an 80% knowledge of the topic the items were called out to an individual student to respond to the entire class. The rest of the

students were to listen to the answer and then provide areas of correction, clarification, and enhancement to the original answer when called upon regarding that item. This process was repeated until a full depth and breadth of the item within the ACS was addressed. The final exam was a "group mock oral" where each student in the class provided an initial response to a question on the Knowledge and risk Management items within the ACS and students had to listen to the information and provide corrections and/or enhancements to the original responder.

- AT 327 Advanced Transport Operations During the semester, there were two rounds of papers and presentations. Though both rounds had significant points, I considered the first round to be practice. The final papers and presentations were used for the Level 2 communication competency assessment. Students showed some errors with APA; however, they were able to write and present appropriately in accordance to proper audience, context, and modes.
- AT 388 Advanced Transport Operations -- Students were asked to conduct a literature review on learning and teaching theory then apply it to a systems lesson plan. Additionally, the students were asked to reflect on the decision-making process. This required coaching and constant guidance. One group was able to apply theory to lesson plan but not in great detail. The other groups failed to apply the theory. There was a gap between the reflections and actual submitted work.
- AT 498 Flight Capstone --Students were asked to complete a research paper, presentation, and poster. I assessed their communication skills and teamwork through observation. This goal required coaching throughout the semester. Specifically, how to use APA, writing style, and synthesizing information. Final papers still had APA errors and lacked detail. Reflecting upon the selected assignment, I realized most of these students have not had a research methods course. It is my recommendation to evaluate lower-level tasks and or adjust the assignment. If we are asking them to present high-quality research projects to the IAB repetition in practice should be conducted throughout the curriculum. One group had teamwork issues, these issues were identified by reflections, emails, and observations. Three of the four groups were able work together.
- All courses assessment strategy should consider behavioral markers for assignment or activity that is directly aligned with competency-based assessment.

• What are the limitations of the competency assessment?

- As previously mentioned, it may be difficult to evaluate or assess students individually, especially for the decision-making competency. In addition, for some assignments (e.g., case studies) students did many activities outside the classroom, which makes it hard to evaluate the content delivery as well as to assess their abilities and skills regarding specific competencies.
- Having larger classes and course descriptions that include group work make it difficult to assess individuals.
- Teamwork assessments were sometimes evaluated on the aggregate rather than the individual level.

• What were the outcomes of the data?

- AT144 Teamwork Level AB1 ~79.48% showed awareness and use of the basic concepts of teamwork and conflict resolution
- AT254 Teamwork Level AB2 ~10.3% showed levels of encouragement and support toward fellow classmates to address content. Conflict resolutions weren't readily observed during coursework.
- AT254 Decision-Making Level AB2 ~ 82.6% showed an ability to assess previous responses to risk management items within the ACS and identify corrective, additive, and enhancing responses to initial questions on the final exam.
- AT 327 Communication Level ABC2 ~60% (4 of 7) of the groups scored a 3 or higher.
- AT 388 Decision-Making Level AB3 25% (1 of 4) of the groups scored a 3 or higher.
- AT 498 Communication Level ABC3 50% (2 of 4) of the groups scored a 3 or higher.
- AT 498 Teamwork Level ABC3 75% (3 of 4) of the groups scored a 3 or higher.
- What changes need to made in regards to content delivery and or assessments?
 - **Content delivery** for the teamwork projects, more input to determine the group accountability aspect will be important to determine if students understand the collaborative role of the task. For the group project students were required to compose a research paper concerning an ICAO / FAA / IATA / NTSB safety priority which included human factors. The rubric for this assignment determined that students were required to utilize a minimum of 10 references, including the results of at least three research studies. including some aviation publications, textbooks, and periodicals. To improve the course, more attention to conventions of APA and writing needs to be given next semester. One may provide a low stakes quiz or assignment to ensure the students know what to expect. This will reduce ambiguity when it comes to the competency and expectations.
 - *Assessment* no major change at this time. However, faculty should review the language within the criteria rubric to ensure it matches the rubric as well as the assignment
- Were assessment methods adequate to measure student achievement towards the specific competency (and level)? If not, what modifications are required?
 - The instructor believes the assessment tools were adequate to measure students' achievement towards the communication (Level 1 ABC) and decision-making competencies (Level 1 AB).
 - The assignments and assessments were adequate for group projects.
 - There is still work needed to accurately require students to submit "Level 1" work, to assess the item at "Level 1" and to ensure that Level 2 and Level 3 build upon Level 1.
 - Further review and alignment by all faculty within the Professional Flight Technology's plan of study are needed to ensure that we assess the competencies at the appropriate level and that all assessment points align with each other to facilitate the students achieving a Level 3 (Proficient) for each competency.

Bachelor of Science in Aviation Management

Introduction

In keeping with the competency-based approach, the program educational goal for the baccalaureate degree in aviation management is as follows:

At least 80% of the graduates of the B.S. in Aviation Management program at Purdue will demonstrate proficient-level competency in the following areas:

- 1. Leadership
- 2. Subject Matter Excellence
- 3. Ethics and Integrity
- 4. Communication
- 5. Teamwork
- 6. Individual Resilience and Innovation
- 1. Leadership

Successful aviation management graduates demonstrate leadership in executive positions at airlines, airports, and a variety of other aviation and aerospace organizations, including government agencies such as the Transportation Security Administration and the National Transportation Safety Board. To ensure that future graduates have the leadership skills required for success in these executive roles, program faculty and industry representatives have identified leadership as a core competency.

The faculty and the Industry Advisory board considered various aspects of leaderships, particularly as they apply to success in the aviation industry. For example, leadership requires a combination of analytical and interpersonal skills, as well as the ability to identify the context for action, and adapt quickly to changing circumstances. Leadership can also be characterized by strategic thinking, planning, and flexibility, as well as the capability to envision success, communicate steps for success, and motivate the team to achieve success. Reflecting these important ideas, the leadership sub-level competencies in Aviation Management have been identified as follows:

- 1. Fostering actions towards achieving vision, mission, and goals of a project or activity;
- 2. Facilitating group processes; and
- 3. Utilizing situation, context, and cultural aspects of organizations effectively.

The three levels of performance for leadership are as follows:

- 1. <u>Emerging</u>: Identifies objectives and priorities; recognizes importance of tactical and strategic planning to accomplish identified goals.
- 2. <u>Developing</u>: Discovers approaches to leading individuals to accomplish identified goals.
- 3. <u>Proficient</u>: Formulates objectives and priorities and implements plans consistent with the long-term interests of the organization in a global environment. Capitalizes on opportunities and manages risks. Builds a shared vision with others and acts as a catalyst for organizational change. Influences others to translate vision into action.

This competency maps to the following AABI General Student Learning Outcomes:

- (g) Engage in and recognize the need for life-long learning and
- (i) Use the techniques, skills, and modern technology necessary for professional practice.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in leadership by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging- to developing- and finally to proficient-level of performance in leadership.

2. Subject Matter Excellence

Management is essentially the allocation of resources, including human, financial and physical, with the objective of achieving an optimal return for all stakeholders. While management in the context of general business is already sufficiently complex, aviation management further complicates this task by introducing operational, safety and regulatory compliance elements into its domain. Being a safety-critical industry from the outset, the air transportation industry has employed comprehensive regulations, rules, and policies for decades to manage these compounding objectives and to achieve a safe and orderly growth of air traffic. Therefore, subject matter excellence in the context of aviation management suggests compliance throughout all hierarchies in the air transportation system.

The faculty and the Industry Advisory Board considered various aspects of subject matter excellence as it applies to the aviation industry. For example, the actual operational environment in air transportation is challenging since data is often incomplete and conflicting. The ability to identity patterns and indicating variables in the presence of noise is a valuable skill that foster advances within the industry. Similarly, critical thinking skills to support the ability to identify meaningful information from complex data are essential for all aviation management students. Reflecting these important ideas, the sub-level competencies under subject matter excellence in Aviation Management have been identified as follows:

- 1. Implementing and managing effective safety, health, and environment systems, using applicable laws, regulations, standards, and codes;
- 2. Effectively solving problems and making decisions;
- 3. Thinking critically; and
- 4. Possessing a satisfactory level of business acumen.

The three levels of performance for leadership are as follows:

- 1. <u>Emerging</u>: Recognizes problems and related data accuracy issues; identifies potential solutions.
- 2. <u>Developing</u>: Demonstrates understanding of technical subject matter and prepares problem solutions.
- 3. <u>Proficient</u>: Analyzes problems and evaluates the relevance and accuracy of information. Develops alternative solutions and chooses optimal solution. Justifies appropriate application of principles, procedures, regulations, requirements, and policies related to specialized expertise.

This competency maps to the following AABI General Student Learning Outcomes:

(a) Apply mathematics, science, and applied sciences to aviation related disciplines and

(b) Analyze and interpret data.

This competency also maps to ALL the AABI Core Student Learning Outcomes:

- 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 on aviation operations of international aviation law, including applicable International Civil Aviation Organization (ICAO) or other international standards and practices; and applicable national aviation law, regulations and labor issues.
- 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

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in subject matter excellence by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging to developing and finally to proficient level of performance in subject matter excellence.

3. Ethics and Integrity

Integrity and ethical behavior are the foundation of mutual trust and serve as a basis for producing graduates who have the capacity to serve as organizational leaders. Managers in various aviation organizations, including airlines, airports, non-governmental and governmental entities are relied upon to conduct themselves in an ethical manner to ensure the safe and efficient flow of people and commerce around the world. Ethics and integrity are necessary core competencies for any successful aviation manager, and the School has developed objectives to enable students in the program to better understand these issues and to act accordingly in their professional careers.

The faculty and the Industry Advisory Board considered various aspects of ethics and integrity as they apply to the aviation industry. For example, ethics refers broadly to the understanding of right and wrong, and behaving ethically requires an individual to act in a way consistent with what is perceived as right. The recognition of unethical behavior is also key. Integrity is the ability of an individual to do the right thing even when not being monitored. A combination of these two concepts is essential to fostering an environment that is conducive to the nurturing of ethical behavior. Reflecting these important ideas, the sub-level competencies under ethics and integrity in Aviation Management have been identified as follows:

- 1. Recognition of ethical issues;
- 2. Evaluation of different ethical perspectives, concepts, and risks;
- 3. Fostering of personal responsibility; and

4. Application of ethical perspectives, concepts, and maturity.

The three levels of performance for ethics and integrity are as follows:

- 1. Emerging: Identifies standards of ethical conduct
- 2. <u>Developing</u>: Illustrates ethics and integrity through examples
- 3. <u>Proficient</u>: Behaves in an honest, fair, and ethical manner, showing consistency in words and actions. Evaluates behavior against an ethical framework.

This competency maps to the following AABI General Student Learning Outcomes:

- (d) Make professional and ethical decisions and
- (f) Communicate effectively, using oral communication skills.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in ethics and integrity by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging to developing and finally to proficient level of performance in ethics and integrity.

4. Communication

The conveyance of critical information is imperative within the aviation industry, and has been well documented by the International Civil Aviation Organization. Such information must be communicated through multiple channels, including written, verbal, and graphical. Effective communication is founded on information literacy, which involves the ability to use appropriate information to learn and explore ideas, demonstrate understanding of a subject, and convey conclusions effectively. At the embedded outcome level, effective communication assumes basic fluency with such things as grammar, organization and structure. It also focuses on being able to convey ideas concisely in ways appropriate for the context, audience and purpose.

The faculty and the Industry Advisory Board considered various aspects of ethics and integrity as they apply to the aviation industry. For example, students graduating from the Aviation Management program are expected to be able to communicate orally, in writing, and through visual and graphical presentations in ways that are appropriate to their fields of study and future careers. At this level, students should recognize that communication occurs within and across communities, such as academic, public or professional, where ideas are formulated, debated, and weighed against one another. Overall, communication is considered a fundamental required competency impacting safety, airworthiness, and other critical operational outcomes in aviation, as well as a cornerstone for business and management. Reflecting these important ideas, communication in Aviation Management has been classified in three categories: writing communication, oral and interpersonal communication, and visual communication. Their sub-level competencies are as follows:

A. Written Communication

4.1A. Understanding the context of and purpose for writing, including considerations of the audience and the circumstances surrounding the writing tasks;

- 4.2A. Utilizing appropriate genre and disciplinary conventions; and
- 4.3A. Utilizing appropriate sources and evidence.

- B. Oral and Interpersonal Communication
 - 4.1B. Clear and consistently-observable organizational pattern;
 - 4.2B. Thoughtful and effective choices of language; and
 - 4.3B. Presenting a clear and consistent central message.
- C. Visual Communication
 - 4.1C. Clear and consistent organizational pattern;
 - 4.2C. Effective use of graphics, and
 - 4.3C. Presence of a clearly-communicated central message.

The three levels of performance for communication are as follows:

- 1. <u>Emerging</u>: Recalls and recognizes basic concepts and terms of context, audience, and purpose, and devotes minimal attention to the assigned task.
- 2. <u>Developing</u>: Demonstrates adequate application of context, audience, and purpose and a clear focus on the assigned task.
- 3. <u>Proficient</u>: Demonstrates a thorough understanding of how to meet communicative needs for context, audience, and purpose.

This competency maps to the following AABI General Student Learning Outcomes:

- (e) Communicate effectively, using written communication skills and
- (f) Communicate effectively, using oral communication skills.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in communication by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging to developing and finally to proficient level of performance in communication.

5. Teamwork

The aviation industry is global in nature and requires collaborative synergy from all stakeholders. The ability to work effectively as a team and facilitate teamwork is essential to aviation managers and, by extension, to management students, since successful teamwork can significantly enhance desired outcomes It is imperative for future aviation leaders to obtain knowledge and achieve a thorough understanding of the merits of teamwork as preparation for managing a high-performance aviation organization.

The faculty and the Industry Advisory Board considered various aspects of teamwork as they apply to the aviation industry. For example, it is critical for aviation managers to facilitate their programs, strategies or initiatives through a collective and collaborative approach. Also, teamwork is particularly important in safety management because accidents can happen due to organizational risks such as insufficient management, supervision, cooperation, leadership, or lack of teamwork, when completing a mission. Reflecting these important ideas, the sub-level competencies under teamwork in Aviation Management have been identified as follows:

1. Facilitation of team member contributions and management of conflict;

- 2. Development and completion of tasks as an individual contributor; and
- 3. Development of skills to facilitate immersion with individuals from different cultures.

The three levels of performance for ethics and integrity are as follows:

- 1. Emerging: Defines and identifies basic teamwork principles.
- 2. <u>Developing</u>: Demonstrates an understanding of expectation of team members.
- 3. <u>Proficient</u>: Inspires and fosters team commitment, spirit, pride, and trust. Facilitates cooperation among team members to accomplish group goals.

This competency maps to the following AABI General Student Learning Outcome: (c) Work effectively on multi-disciplinary and diverse teams

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in teamwork by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging to developing and finally to proficient level of performance in teamwork.

6. Individual Resilience and Innovation

Individual resilience is the ability to persevere in the face of adversity and changing circumstances, and innovation is the ability to creatively seek solutions and find opportunities in changing environment. Resilience and innovation are evolving concepts that encompass system identification, resilience objective setting, vulnerability analysis, and stakeholder engagement. Also, resilience is about building three types of capacities adaptive capacity, absorptive capacity, and recoverability capacity.

The faculty and the Industry Advisory Board considered various aspects of resilience and innovation as they apply to the aviation industry. For example, successful aviation management graduates demonstrate resilience and innovation in executive positions at airlines, airports, and a variety of other aviation and aerospace organizations, including government agencies such as the FAA, TSA and NTSB. Reflecting these important ideas, the sub-level competencies under teamwork in Aviation Management have been identified as follows:

- 1. The ability to adapt and innovate; and
- 2. Willingness to engage, along with a belief that the task can be accomplished.

The three levels of performance for individual resilience and innovation are as follows:

- 1. <u>Emerging</u>: Describes the innovation process; identifies examples of resilience. Identifies problems that may be solved through innovation.
- 2. <u>Developing</u>: Discovers ways to apply ideas and existing technology to solve identified problems.
- 3. <u>Proficient</u>: Develops new insights, ideas, and innovations, questions conventional approaches, and implements innovative programs/processes. Deals effectively with pressure; remains optimistic and persistent, even under adversity. Recovers quickly from setbacks.

This competency maps to the following AABI General Student Learning Outcomes:

(h) Assess contemporary issues;

(j) Assess the national and international aviation environment;

(k) Apply pertinent knowledge in identifying and solving problems; and

(1) Apply knowledge of business sustainability to aviation issues.

<u>The program-level performance target is set as follows</u>: At least 80% of the students will be able to demonstrate their competency in individual resilience and innovation by scoring 80% or better at proficient level. Multiple direct assessment tools are used to demonstrate progression of students from emerging to developing and finally to proficient level of performance in individual resilience and innovation.

Assessment Timeline

Once the competencies and their proficiency levels were established, an implementation and assessment timeline was developed. Table 2 illustrates this timeline. Since the competencies were finalized at the end of fall 2019, the implementation started in spring 2020. Unfortunately, due to COVID-19 disruption, the faculty had to pivot to completely online instruction in the second half of spring 2020, strict protective and social distancing measures as well as option of online instruction in fall 2020, an alternate academic calendar and attendance expectations in spring 2021, and ultimately resuming almost normal instruction in fall 2021. A timeline illustrating the University's guidance and response since February 4, 2020 is available at https://protect.purdue.edu/timeline/. In spite of these disruptions and changes to the academic calendars, the faculty and the students remained focused on their instructional objectives. However, the discussions regarding implementation of competencies and their assessment, as planned were limited. In fall 2021, the faculty conducted a review of the implementation and assessment status and adjusted the timeline to be consistent with the current reality.

Task	Target Date
Implement Communication, Ethics, and Teamwork competencies into	Spring 2020
identified courses	
COVID-19 DISRUPTION	March 2020-
	August 2021
Evaluate baseline data for Communication, Ethics, and Teamwork	November 2021
Conduct annual review detailing outcomes of the evaluation process	December 2021
Distribute annual student achievement data to faculty and administration	December 2021
Implement changes, as necessary, to Comm., Ethics, and Teamwork	Spring 2022
Implement Leadership, Resilience, and Subject Matter Excellence into	Spring 2022
identified courses	
Evaluate baseline data for Leadership, Resilience, and Subject Matter	May 2022
Excellence	
Implement changes, as necessary to Leadership, Resilience, and Subject	Fall 2022
Matter Excellence	
Conduct annual review detailing outcomes of the evaluation process	December 2022
Distribute annual student achievement data to faculty and administration	December 2022
Annual Recurrent Tasks	
Implement changes and revisions, as necessary for all six competencies	Spring
Evaluate all six competencies	May
Implement changes and revisions, as necessary for all six competencies	Fall
Evaluate all six competencies	December
Conduct annual review detailing outcomes of the evaluation process	December
Distribute annual student achievement data to faculty and administration	December

Table 2. Implementation and Assessment Timeline.

<u>Outcomes, Evaluation Methods and Feedback loop for the B.S. in Aviation Management</u> <u>Program</u>

The results of implementing competency-based assessment throughout the Aviation Management program are presented.

Instructor Feedback

1. Communication

This competency was assessed at the developing or Level 2 proficiency in AT252 and at proficient or Level 3 proficiency in AT481. The instructors used group project reports and presentations as the direct measures in assessing students' proficiency. The class performances were above the set target. No corrective actions were necessary.

2. Ethics and Integrity

This competency was assessed at the emerging or Level 1 proficiency in AT100, at developing or Level 2 proficiency in AT252, and at proficient or Level 3 proficiency in AT475 and AT495. The instructor of AT100 used guizzes and a group project as the direct measures to assess the students' proficiency in Ethics and Integrity at the "emerging" level. The class performance was above the set target on both measures and in both terms. No corrective actions were necessary. The instructor of AT475 used case studies as direct measures to assess the students' proficiency in Ethics and Integrity at the "Proficient" level. In fall 2021, the class performance was above the set target on these measures. No corrective actions were necessary. The instructor of AT495 used CITI Certification and the Final Capstone Project Report to assess the students' proficiency in Ethics and Integrity at the "Proficient" level. Student performance on CITI Certification was above the target in fall 2020 and spring 2021. No corrective actions were necessary. Student performance on the Final Capstone Project report was at the set target level in fall 2020, but dropped below the target level in spring 2021. The key issue in spring 2021 was likely to be related to the disruption in services due to COVID-19 pandemic, which caused the class to switch to a hybrid/hyflex format (synchronous and asynchronous online instruction).

Corrective Action: Students were allowed to submit draft versions of their final capstone projects. Feedback provided on the draft submissions allowed the students an additional opportunity to improve their writing and meet the performance expectations at the "proficient" level.

3. Teamwork

This competency was assessed at the developing or Level 2 proficiency in AT252 and AT362, and at proficient or Level 3 proficiency in AT495. In fall 2020, students performed below the set target in almost all the assignments. This semester, the instructor had to switch to completely online instruction due to COVID-19.

Corrective Actions: The AT495 instructor noted that additional coaching and mentoring

sessions were necessary to keep the students motivated and to provide timely guidance/interventions in supporting student learning.

In spring 2021, the COVID-19 restrictions continued, and the student performance was below target in four of the six assignments.

Corrective Actions: The AT495 instructor will provide additional guidance materials and best practices documents to help the students improve their performance. Additional coaching and mentoring sessions will also be made available to keep the students motivated and to provide timely guidance/interventions in supporting student learning.

4. Leadership

This competency was assessed at the developing or Level 2 proficiency in AT252 and AT362, and at proficient or Level 3 proficiency in AT412, AT421, and AT475. In fall 2021, the AT475 instructor reported that 100% of the students scored above the set target for case studies, research paper, and team presentation. No corrective actions were necessary.

5. Individual Resilience and Innovation

This competency was assessed at the emerging or Level 1 proficiency in AT102, at the developing or Level 2 proficiency in AT203, AT252 and AT362, and at proficient or Level 3 proficiency in AT481 and AT495. The AT102 instructors used quizzes and exams as their direct measures. The assessment results from all direct measures indicated that all the students scored above 80% most of the time. Student's performance in exams has consistently improved since fall 2019. In terms of quiz results, the lower-than-target quiz results in spring 2021 were caused by higher than normal absences, which is partially caused by the "COVID-fatigue". No corrective actions were noted.

A retroactive competency-based assessment was conducted for AT362 in spring 2018. Dr. Mott). The final project report was used as the instrument for direct measure, and in accordance with the assessment rubric for that assignment, 100% of the students demonstrated proficiency at the "developing" level. Therefore, no corrective action was necessary. In spring 2020, in AT 203, the instructor used an assignment and a project report as his direct measures for this competency at the "Developing" level. In accordance with his assessment rubric, the class performance was above the set target. No corrective action was necessary.

In AT49801, the instructor used four direct measures: a research methods assignment, a group presentation, a digital poster, and the final capstone report. In fall 2020, students performed below target in the research methods and final capstone assignments, but above target in the group presentation and digital poster assignments.

Corrective Actions: The instructor intensified continuous monitoring of student progress on the assignments and provided additional out-of-class coaching and mentoring. These actions resulted in at or above target student performance in research methods and capstone assignments in spring 2021. In spring 2021, the student performance in the digital poster assignment dropped below the set target. This drop is attributed primarily to the disruptions caused by COVID-19 and the inability to provide extra sessions of coaching and monitoring to the students. In the future, additional work sessions, out-of-class video conferences, and other types of coaching and mentoring sessions will be made available for all assignments.

6. Subject Matter Excellence

This competency was assessed at the emerging or Level 1 proficiency in AT103 and AT144, at developing or Level 2 proficiency in AAT202, AT203, and AT362, and at proficient or Level 3 proficiency in AT412, AT421, and AT475. A retroactive competency-based assessment was conducted for spring 2018 in AT203. Two exams were used as the instruments for direct measure, and in accordance with the assessment rubric for those exams, 100% of the students demonstrated proficiency at "developing" level via each exam. Therefore, no corrective actions were necessary.

In spring 2020, in AT203, two exams were used for direct measures for this competency at the "Developing" level. In accordance with his assessment rubric, the class performance was below target at midterm, but above target at the final exam.

Corrective Action: Between the midterm exam and the final exam, the AT203 instructor provided additional instruction related to competitiveness and strategy using case studies. Students were also given in class exercises to work on current industry problems. The final exam performance was above the set target. No further corrective action was necessary.

In fall 2019, in AT412, the students fell short of target in their performance on the portfolio project. Performance on the final exam was above the target.

Corrective Action: The AT412 instructor provided students with additional instruction and practice on portfolio building and diversification using Investopedia.

Subsequent Assessment: Subsequent assessment in fall 2020 indicated achievement of the set performance target. No further corrective actions were necessary.

In fall 2021, the AT475 instructor used five case studies, ten quizzes, one research paper, and one presentation as direct measures. 100% of the students scored above the set target for case studies, research paper, and presentation. However, only 51% of the students scored 80% or better on the quizzes. Pre-quiz review sessions will be added in subsequent semesters.

Graduation Rates

Number of Professional Flight Degrees Granted								
AY 201	6-17	AY 2017-18	A	Y 2018-19	AY 20)19-20	AY 2	2020-21
37		55		61	5	56		79
	Pro	fessional Fligh Technology	t	Gi	aduatior	n Rate		
				4-Year	5-Year	6-1	lear	
		2012		75.0%	83.9%	83	.9%	
		2013		54.0%	74.0%	80	.0%	
		2014		64.5%	79.0%	80	.6%	
		2015		82.1%	87.5%	87	.5%	
		2016		83.3%	90.9%			
		2017		84.4%				

Number of Professional Flight Degrees Granted

Number of Aviation Management Degrees Granted

INUII	ider of Aviatio	n Managemen	it Degrees Gra	inteu
AY 2016-17	AY 2017-18	AY 2018-19	AY 2019-20	AY 2020-21
37	34	41	40	36

Aviation Management	Gra	Graduation Rate			
	4-Year	5-Year	6-Year		
2011	42.4%	57.6%	66.7%		
2012	63.0%	77.8%	85.2%		
2013	73.7%	84.2%	84.2%		
2014	75.0%	85.0%	85.0%		
2015	61.5%	61.5%	84.6%		
2016	81.8%	81.8%			
2017	83.3%		-		

Employment/Graduation Plans

Average Salary, Professional Flight

_	2016 - \$40,378
-	2017 - \$34,555
-	2018 - \$48,942
-	2019 - \$47,659
-	2020 - \$47,667

Places of Employment, Professional Flight

JATO Aviation
Indianapolis Airport
AeroDynamic Aviation
Channel Islands Aviation
Republic Airways First Wing Jet Center
ForeFlight Leading Edge Flight Academy
East Coast Aero Club
Evasta Lunken Flight Training Center
Purdue University

Plans After Graduation – 5 Year Trend, Professional Flight

Year	Employed	Continuing Education	Seeking Employment	Other
2016	68.4%	5.3%	10.5%	15.8%
2017	83.3%	16.7%		
2018	69.7%	21.2%		9.1%
2019	63.0%	18.5%		18.5%
2020	71.4%	10.7%	7.14%	10.7%

Average Salary (Aviation Management)

Places of Employment (Aviation Management)

CAVOK Group
Oliver Wyman
American Airlines
Johnson Brothers
Amazon
Sikorsky Aircraft
Republic Airways

Plans After Graduation – 5 Year Trend, Aviation Management

Year	Employed	Continuing Education	Seeking Employment	Other
2016	65.5%	10.3%	10.3%	13.8%
2017	86.7%	13.3%		
2018	46.2%	30.1%	15.4%	7.7%
2019	79.0%	10.5%	10.5%	
2020	46.2%	23.1%	15.4%	15.4%