



Aviation & Space Education

FAA Aviation Workforce and STEM AVSED Outreach

Presented to:
By:
Date:

Aviation Technician Education Council
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The Challenge

Lack of Diversity

- 7% of pilots and 2.4% of mechanics are women
- 71.6% of workers in aviation industry are Caucasian



Quickly Evolving Industry

- New entrants at rapid speeds
- Quickly evolving skill sets



Tackling the Challenge: FAA Aviation Workforce Symposium

Sept
2018

Aviation
Workforce
Symposium

- Discussed the current need for aviation professionals
- Shared strategies and best practices for addressing this need
- Captured opportunities for further cooperation and collaboration



Tackling the Challenge: FAA Reauthorization



Section 601 – Student Outreach Report

Section 602 – Youth Access to American Jobs in Aviation Task Force

Section 612 – Supporting Women’s Involvement in the Aviation Field

Section 625 – Aviation Workforce Development Programs

Section 631 – Community and Technical College Centers of Excellence in Small UAS Technology Training

Section 632 – Collegiate Training Initiative Program for UAS





The Federal Aviation Administration (FAA) Aviation Workforce Steering Committee facilitates cross-agency strategic coordination to enable entry into aviation careers, inspire youth and promote aviation. The team will study the current challenges from the perspective of Pipelines, Pathways and Partnerships with the goal of identifying concrete actions that can be taken to have an impact on the current aviation workforce crisis. The expected outcome is an increased talent pool for the national aviation ecosystem from which both government and commercial industries may recruit.

Feb
2019

Workforce
Steering
Committee

VISION

The FAA aims to ensure a pipeline of aviation professionals that have the *right skills* to meet the challenges of the aviation and aerospace industry of the 21st century. We will do this by collaborating closely with key partners to inspire a passion for aviation in *diverse populations*, including youth, women and minorities, and by providing them with clear pathways to aviation careers.



STEM AVSED Vision Statement



“Inspire youth from diverse backgrounds to pursue aerospace careers and create a consistent pipeline of professionals for a robust workforce of the future..”

STEM AVSED: FY21-24 Goal Areas



Goal 1

Pipelines and
Pathways to
Aerospace
Careers



Goal 2

STEM Education
for Every
Student



Goal 3

Strategic
Partnerships to
Maximize the
Benefits



Goal 4

Cross-Agency
Collaboration
to Optimize the
Program



Goal 1: Pipeline & Pathways to Aerospace Careers



- 1. Implement pipeline outreach activities aimed at introducing students to opportunities in aerospace careers**
- 2. Develop focused outreach efforts to address career or skill area shortages across the aerospace community based on data and stakeholder input**
- 3. Create opportunities for ongoing engagement with students to encourage participation in pathway activities**
- 4. Leverage critical influencers, (e.g., educators, parents, etc.) and provide them with tools to inspire students to pursue aerospace careers**

STEM AVSED Airport Design Challenge



- Students model actual airports using Minecraft
- Organized lesson plans build on one another
- Knowledge check assignments verify student learning and involvement
- Collaborative communication between students, teachers, parents, and FAA staff
- STEM based applied knowledge in math, engineering, and aerospace career development



STEM AVSED Airport Design Challenge

Recent success includes:

- Over 2,800 students (K-12 grades) from every US State and 18 foreign countries
- Volunteer Outreach Representatives from all 9 FAA regions supported students in various mentorship roles
- A panel of FAA judges scored student projects and provided meaningful feedback to each team
- More than 6,000 viewers and 45,000 social media impressions during awards ceremonies



A Targeted Approach to Equity

- Identify groups currently underrepresented in the aerospace industry
- Research schools, organizations, and community resources that represent those groups
- Target 60% of marketing outreach to promote diversity

Ensuring Accessibility

- Minecraft provides a free Education Edition for qualifying users
- Participation requires limited access to the internet and Minecraft software
- Instructional videos are developed with closed captions



Goal 2: STEM for Every Student



- 1. Use a data-driven approach to identify populations with diverse backgrounds to conduct targeted outreach**
- 2. Identify and implement strategies to effectively conduct outreach to underrepresented populations**
- 3. Provide FAA employees involved in STEM with training, resources, tools and opportunities to incorporate equity, diversity, and inclusion into their outreach**

STEM AVSED Program CSTI Focus for FY22: Equity

Equity CSTI: Activities & Targets

- Define and identify planned FAA organizationally-sponsored outreach
- Create and begin to implement equity assessment criteria
- Conduct equity assessment training
- Identify equity assessment IT platform
- Provide summary of equity assessment results from FY22

STEM AVSED Business Plan Goals & Activities

- Execute FY22 Adopt-a-School
 - Launch National Program
- Create STEM AVSED Integrated Communications Strategy (co-owned with AOC)
- STEM AVSED Adopt a School Program (OSI/M)
 - 100% delivery of course material
 - Employee participation



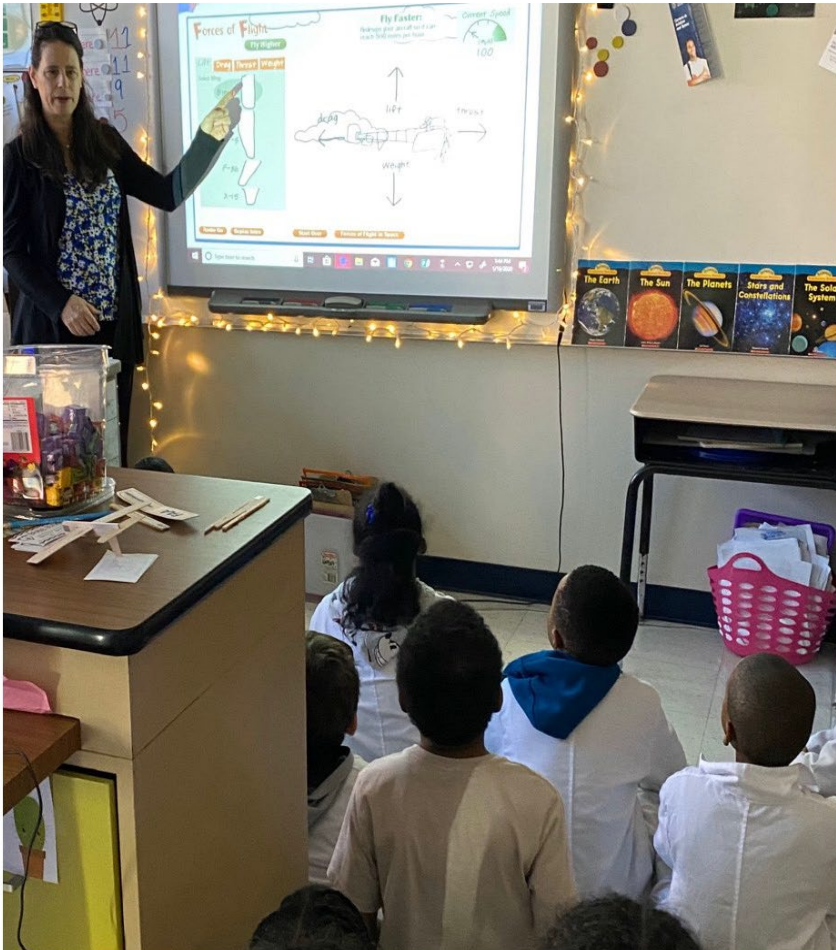
FAA Adopt-a-School Program



- FAA Adopt-a-School Program is one of our STEM AVSED initiatives
- The program focuses on
 - Reinforcing STEM literacy through hands-on learning experiences
 - Increasing awareness of aerospace career opportunities
 - Creating a connection between schools, students, and FAA employees
 - Developing relationships across diverse communities and serving as role models to students in these communities
- Timeline
 - Small-scale program in 2019 – 2020
 - Nation-wide launch in 2021 – 2022



FAA Adopt-a-School: *Program Details*



- The Adopt-a-School Program will:
 - Educate **4th grade students** about aviation and aerospace careers
 - Share STEM-based lessons
 - Foster relationships between FAA experts, teachers, and students
 - Generate professional connections for students
 - Promote community benefits of aerospace
- This **free program** is for the 2021-22 school year. Lessons are provided during school hours.
- Teachers will be paired with a **FAA Liaison** who will facilitate the educational opportunities.
- **FAA Outreach Representatives** (ORs) will present six lessons on aerospace topics.



FAA Adopt-a-School: *Lesson Topics*

- We collaborated with local, regional, and national partners, such as the National Air and Space Museum, to develop lessons and materials for students.
- The six lessons cover various aerospace topics.



Airports



Air Traffic Controllers



Aviation Maintenance Technicians



Drones



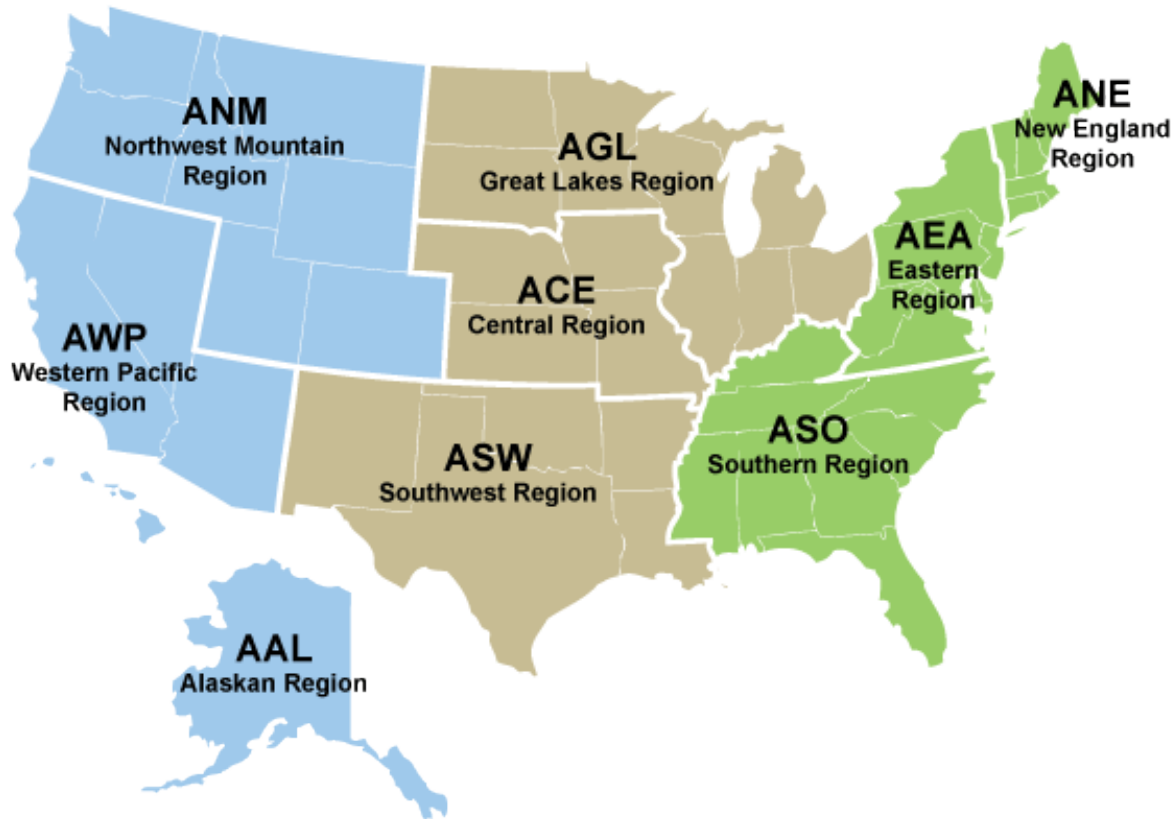
Pilots



Space



Partnerships in the Community



The program will launch across FAA's nine regions in 2021-2022 school year

- FAA wants to inspire as many students, in as many diverse populations, as possible
- Nine schools across the nation will be selected to participate in the upcoming school year
- School selection was based on a combination of factors, including diverse populations, proximity to FAA facilities, and/or the location of potential partners
- We aim to form lasting relationships in the community, to serve as role models, and to help facilitate connections with our partners

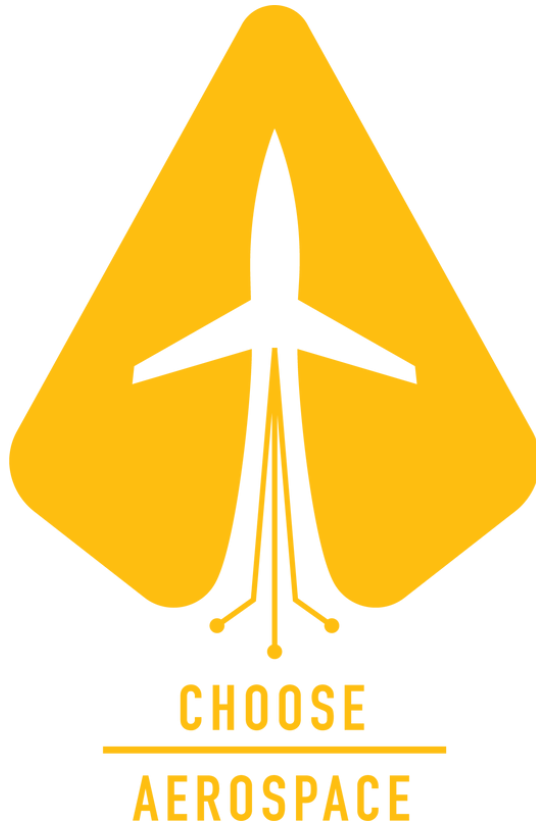


Goal 3: Strategic Partnerships to Maximize Benefits



Form strategic partnerships with government organizations at all levels, as well as with key stakeholders in industry and academia, and build relationships aimed at reaching our STEM and aerospace education goals

Goal 3: Strategic Partnerships to Maximize Benefits



AND MANY MORE....

Goal 4: Cross-Agency Collaboration to Optimize the Program



1. **Develop, support, and implement policies, procedures, and processes that enable cross-Agency collaboration on STEM and aerospace education activities**
2. **Optimize use of FAA internal resources, including STEM AVSED Outreach Representatives**
3. **Ensure reliable funding stream for cross-Agency STEM and aerospace education activities**
4. **Develop and implement effective approaches for data collection, analysis, and reporting for STEM-related activities across the Agency**



Aviation Workforce: Cross Collaboration



Advisory Boards

Women In Aviation

- Board has held 4 public meetings.
- Consists of 4 subcommittees focused on duties in statue.
- Charter renewed for an additional 2 years.
- Final public meeting will be March 21, 2022 where final report will be discussed.

Youth in Aviation Task Force

- Task force has held 5 public meetings.
- Consists of 4 subcommittees focused on duties in statue.
- Charter renewed for an additional 2 years.
- Task force anticipates completion of work by the 3rd Quarter of calendar year 2022.



For more information on the FAA's Aviation Workforce and STEM AVSED Program

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