



## **Building Pipelines: High School Partnerships through Choose Aerospace**

A crash course for part 147 programs





## About

Choose Aerospace is a partnership of aerospace stakeholders, joined together to address one of the biggest threats to continued industry growth: the availability of a diverse, qualified technical workforce.

The charitable organization is managed by the Aviation Technician Education Council, a non-profit trade association that represents aviation technical education, including nearly 75% of all FAA-certificated aviation maintenance technician schools in the U.S.

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# Leadership



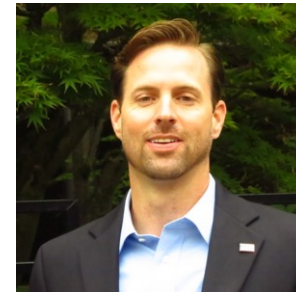
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Vice President  
Kevin Dallaire, Piedmont



Secretary/Treasurer  
Joel English, AIM



Director  
Justin Madden, AMFA



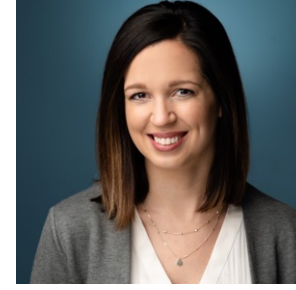
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Tamera Holmes, AAI



Advisory Director  
Sean Torpey, FAA



Executive Director  
Crystal Maguire



Scholarship Coordinator  
Tarra Ruttman

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# Development Team

## Clemson - Content and Platform Developers

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Rachel Turner, Lead Instructional Designer

Julia Perry, Instructional Designer

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Zachary Trabookis, Lead Developer

## Subject Matter Experts

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Matthew Harrison, Associate Professor, Southern Illinois University

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Carl Washburn, AMT Department Head, Greenville Technical College

## ARCS Aviation – Content Developers

Barjes Alotaibi, Managing Director

Fazil Punnassery, SME

Aziz Sulaim, Lead Business Development

Sacha Berwin, XR SME

John Jensen, Lead Programmer

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# Advisory Committee Members

AAR Corp

Aircraft Maintenance Technicians Association

Aircraft Mechanics Fraternal Association

American Airlines

Aviation Institute of Maintenance

Aviation Technical Services

Aviation Workforce Solutions

Delta Air Lines

Duncan Aviation

Federal Aviation Administration

General Atomics

Horizon Air and the Alaska Air Group

Liberty University

Marshall University

Mentoring Mission

National Transportation Safety Board (former board member)

Oklahoma Department of Career and Technical Education

Pathways to Aviation

Piedmont Airlines

Portland Community College

Professional Aviation Maintenance Association

ROTORDOC LLC

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# Pilot Schools

**Crowley Academy of Aviation**  
Crowley TX

**Jefferson Union**  
Daly City CA

**Vienna High School**  
Vienna IL

**Des Moines Public Schools**  
Des Moines IA

**Liberty High School**  
Hillsboro OR

**VIPER Transitions**  
Anchorage AK

**Dubisk Career High School**  
Grand Prairie TX

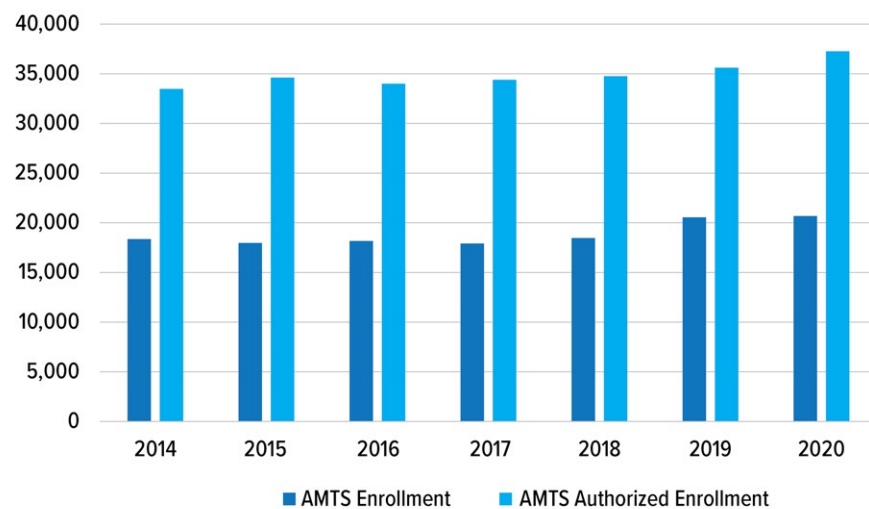
**Mid-Del Technology Center**  
Midwest City OK

**Urban League**  
St Louis

**Grand Island Senior High**  
Grand Island NE

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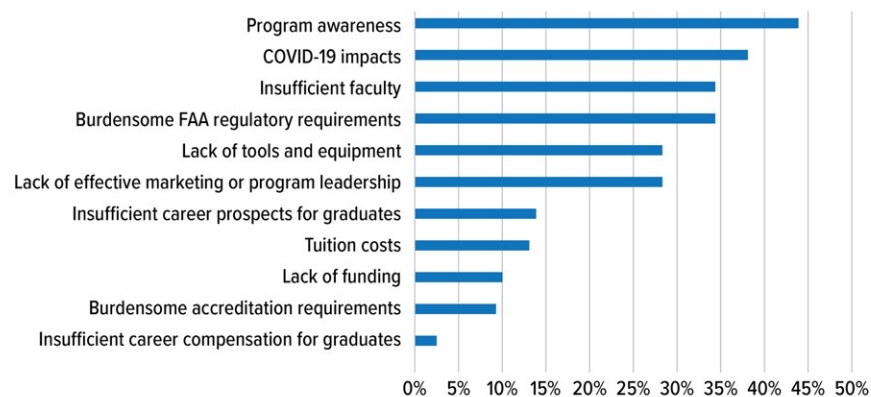


## The Challenge

- Only a quarter of AMTS report an 80 percent or better load factor.
- The percentage of available seating capacity filled with students is 56—down 1.3 basis points from last year.
- Nationally, nearly two out of every five available AMTS seats remain open

## The Challenge

Lack of program awareness has been consistently cited as the biggest barrier to growing aviation programs.



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## Aviation Maintenance Curriculum

- Eleven modules cover the general subject areas in the FAA [Mechanic Airman Certification Standards](#)
- Intended for deployment in high schools to **create awareness in aviation careers**, and to provide direct employment and matriculation opportunities into A&P schools
- Limited equipment and materials required, supplemental hands-on elements available
- License fees \$200 per student, per year

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## OPTIONAL HANDS-ON ELEMENTS

- "Table top" projects are in development
- Covers skill areas already addressed in the platform
- Optional and adjustable, recommended tool and equipment list available

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# Curriculum

FAA ACS AM Overview



## EducateWorkforce

Support



Courses

Profile

Help

JohnDoe

### My Courses

Search Your Courses



#### Aircraft Cleaning and Corrosion Control

CHOOSEAEROSPACE - FAA-PART-147-CCC101 - 2020\_Fall  
Started - Oct 6, 2020

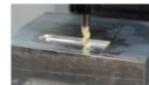
Resume Course



#### Aircraft Drawings

CHOOSEAEROSPACE - FAA-PART-147-AD101 - 2020\_Fall  
Started - Oct 6, 2020

Resume Course



#### Aircraft Materials, Processes and Hardware

CHOOSEAEROSPACE - FAA-PART-147-MPH101 - 2020\_Fall  
Started - Oct 6, 2020

View Course



#### Aircraft Weight and Balance

CHOOSEAEROSPACE - FAA-PART-147-WB101 - 2020\_Fall  
Started - Oct 6, 2020

View Course



#### Basic Electricity

CHOOSEAEROSPACE - FAA-PART-147-ELEC101 - 2020\_Fall  
Started - Oct 6, 2020

View Course



#### Basic Physics

CHOOSEAEROSPACE - FAA-PART-147-PHYS101 - 2020\_Fall  
Started - Oct 6, 2020

View Course



#### Fluid Lines and Fittings

CHOOSEAEROSPACE - FAA-PART-147-FLF101 - 2020\_Fall



# Learning Platform Login

**Web Address:**

<https://learn.chooseaerospace.org>

**Register Account**

- Complete the form and click the link within the activation email (for continued use of platform).
- Do this before logging in or getting courses assigned.

**Login Account**

- All students and instructors will need to authenticate before viewing assigned curriculum.
- Course [dashboard](#) page shows list of curriculum enrolled.



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# Course Components

## Course

*"Fluid Line and Fittings"*

- **Module(s)**  
*"Module 1: Rigid Fluid Lines"*
  - **Lesson(s)**  
*"Lesson 1.3 Fabricating Rigid Fluid Lines"*
    - Objectives
    - Video Lectures
    - Interactions
    - Immersive Virtual Reality
    - Open Text (FAA Part-147 Handbook 8083)
    - Interactive Assessments

## Learning Platform Components



Video Lectures



Interactions +  
Virtual Reality



Open Text



Interactive Assessments

## Computer-Based Engaging Content

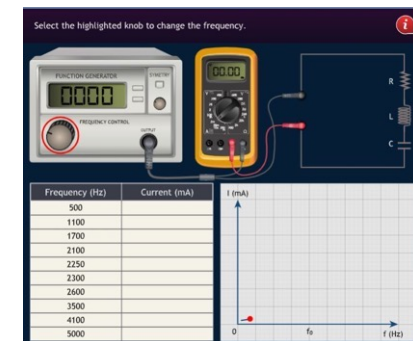


The curriculum includes video lectures, interactive assessments, interactions and virtual reality to simulate hands-on learning.



Figure 17.2-10 Towbarless Tractor Towing an Aircraft

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Lecture **Videos**





Concept **Visualizations**

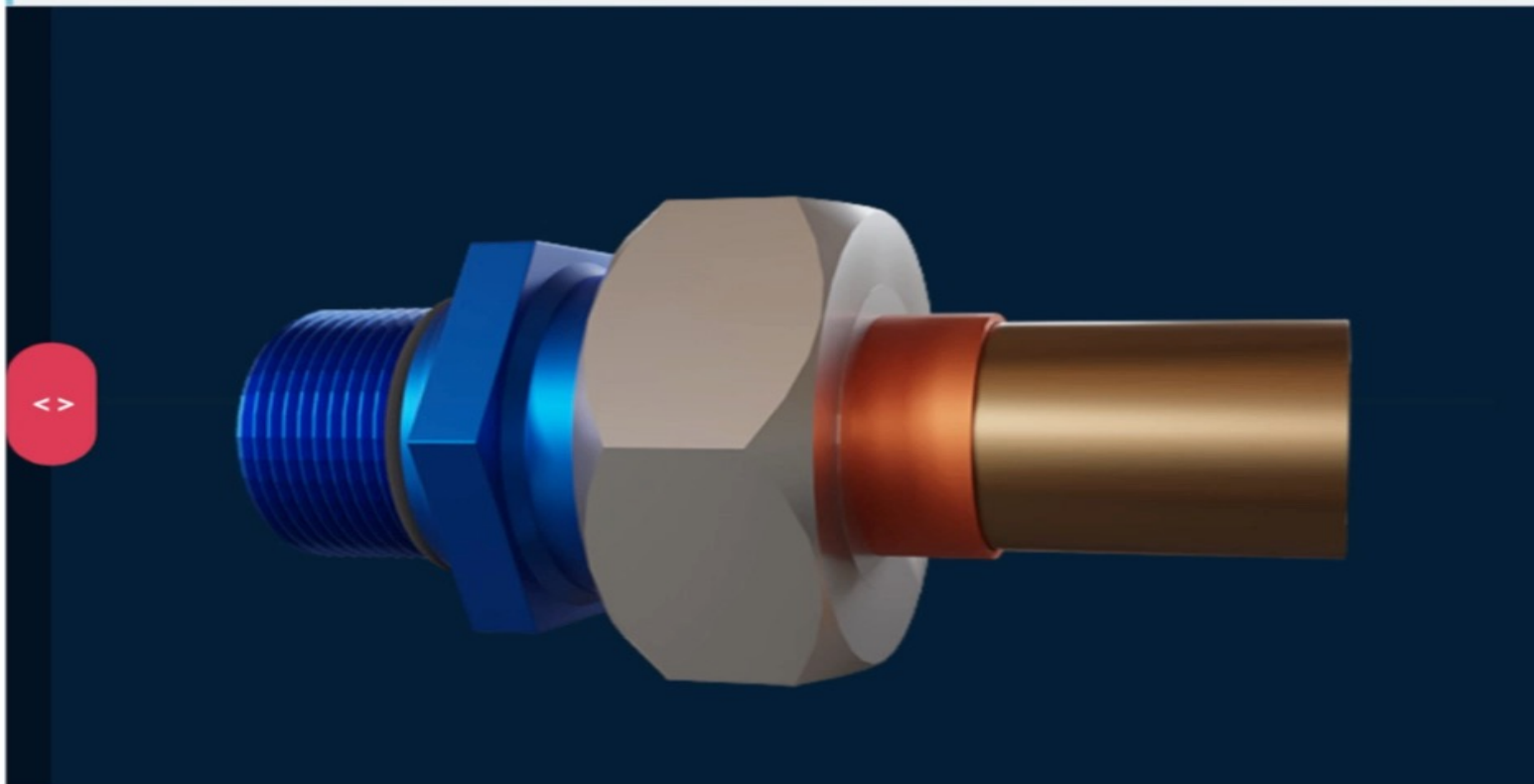


Interactions



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This interaction should be used to reinforce learning of AN Flare Fitting cross-section. Move the slider to view the cross-section.



Enhanced **Interactions**



## Virtual Reality (VR) Simulations



◀ Previous Step

Welcome to the Aircraft Towing Simulation. Press the Next Step button to continue.

Next Step ▶

Introduction

Open **Text**



Robust open textbooks are provided for all courses. This traditional learning tool is a perfect complement to the other forms of online content.

#### **FAA Aviation Maintenance Technician**

- FAA-H-8083 Handbook



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## Interactive **Assessments**



Reinforcement of learning materials through immediate feedback as well as an instructor-led grading system are both available.

### **Problems Types**

- Multiple Choice
- Multiple Select
- Numerical Input
- Drag and Drop
- Open Response

### **Module Types**

- Lesson Activities
  - Multiple Attempts
- Module Reinforcements
  - Limited Attempts



**EducateWorkforce**




# Instructor Dashboard


Overview




## EducateWorkforce




CoursesProfile


Help DemoInstructor



### Demo: Fluid Lines and Fittings

CA - FAA-ACS-AM-ID-FLF - 2021\_Fall  
Started - Oct 6, 2020

 [Resume Course](#)



CA: FAA-ACS-AM-ID-FLF  
Demo: Fluid Lines and Fittings

CourseProgressGlossaryeBookBadgesInstructor

### Instructor Dashboard

Course InfoResourcesMembershipCohortsStudent AdminData DownloadAnalyticsCertificatesOpen Responses

#### Course Info

#### Enrollment Information

Number of enrollees  
(admins, staff, and students)  
by track

Verified	0
Audit	50
Honor	0
Professional	0
<b>Total</b>	<b>50</b>



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## Student **Enrollment**

How do I register/unregister bulk learners in my course?

**Answer:** Use the *Instructor Dashboard > Membership > Batch Enrollment* form.

How can I see learners not yet enrolled in my course?

**Answer:** Use the *Instructor Dashboard > Data Download > Reports > Download a CSV of learners who can enroll*.



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# Student Progress

How is my class doing in this course?

Check progress with the following actions:

- Gradebook
- View Specific Learner's Grades and Progress
- View Course As Learner
- Generate Grade Report



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CHOOSEAEROSPACE: FAA-PART-147-FLF101  
Fluid Lines and Fittings

Help DemoInstructor ▾

CourseProgressGlossaryeBookBadgesInstructor

Instructor DashboardVIEW COURSE IN STUDIO

Course InfoResourcesMembershipCohortsStudent AdminData DownloadAnalyticsCertificatesOpen Responses

Student Admin

View gradebook for enrolled learners

Note: This feature is available only to courses with a small number of enrolled learners.

[View Gradebook](#)

View a specific learner's grades and progress

Learner's EducateWorkforce email address or username

[View Progress Page](#)

Adjust a learner's grade for a specific problem

Learner's EducateWorkforce email address or username

Location of problem in course

Example: block-v1:edx+DemoX+2015+type@problem+block@618c5933b8b544e4a4cc103d3e508378

Attempts

Allow a learner who has used up all attempts to work on the problem again.

[Reset Attempts to Zero](#)

Rescore

For the specified problem, rescore the learner's responses. The 'Rescore Only If Score Improves' option updates the learner's score only if it improves in the learner's favor.

[Rescore Learner's Submission](#)

[Rescore Only If Score Improves](#)

Support

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# Support

Curriculum and Platform



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## General **Support**

### **Request Help**

- For any questions related to the course please use the Support form located on left bottom of every Learning Management System (LMS) page.
- Report issues on the same page using the support form when available.

### **Communication**

- Messaging with the support team is handled through email.

**Email:** [support@educateworkforce.com](mailto:support@educateworkforce.com)



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## Support Knowledge Base

### FAQ Page

Provides quick answers to common questions

### Help Topics

Provides category grouping of related articles

### Popular Articles

Documentation that is either new or popular

### Web Address:

<https://support.educateworkforce.com>

### Search Bar

Locate support articles faster

### Support Button

A way to contact support through form submission

 **Support**



### Help Topics



#### Account Basics

Manage items like create and account, solve a sign in problem, or manage your account for the platform.



#### Courses

Describes how to enroll in courses, dates and schedules, accessing course content, checking your course progress, among other things.



#### Achievements

Find out information related to certificate and open badge recognitions.



#### Instructor & Admin Support

Covers how to manage courses related to problems and exams, grading, and best practices.



#### Payments

Indicates how someone would pay for a course.

#### Copyright And Legal



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## Instructor & Admin Support Category

Provides articles related to the following areas:

### Grading

- Verify graded and course completion progress

### LMS

- Switching roles


### Problems & Exams

- Reset Problem Attempts




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# EducateWorkforce




Home > Instructor & Admin Support




### Instructor & Admin Support

Covers how to manage courses related to problems and exams, grading, and best practices.




### Grading

Topics include progress page and learner-specific grading issues.



### LMS

Information regarding the Instructor Dashboard and learner experience.



### Problems & Exams

Describe items related to problem components (open response, multiple choice) and quiz and exam sections.

### Need Support?

Can't find the answer you're looking for? Don't worry we're here to help!

[CONTACT SUPPORT](#)



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# Graded Progress

Provides articles related to the following areas:



## Grading (Instructor)

- How Do I Check Learner Progress?



## Courses (Learner)

- How Can I Check My Course Progress?



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## How Do I Check Learner Progress?



There are two types of progress that we can check for the individual learner. One is graded progress and the other is course completion progress. Review the sections below that pertain to your needs.

- 1 Obtain the learner's username or email address. Learners can use [How can I Locate my Username and Email on my EducateWorkforce](#) to locate their username.

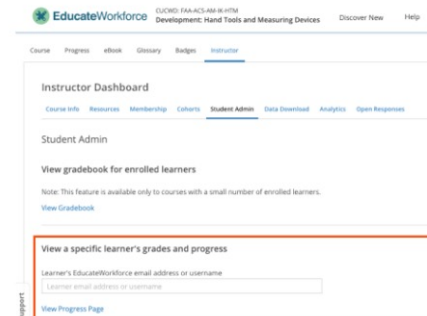
## Graded Progress

To check a single learner's progress in your course, you can review the learner's **Progress** page. The **Progress** page includes a variety of features learners to gauge their performance in a course.

To view a specific learner's **Progress** page, you need their email address. You can check the progress for learners who are either enrolled in, or who are unenrolled from, the course.

To view the **Progress** page for a specific learner, follow these steps.

- Select **Instructor**, and then select **Student Admin**.
- Under the section **View a specific learner's grades and progress**, enter the email address or username and click **View Progress Page**.

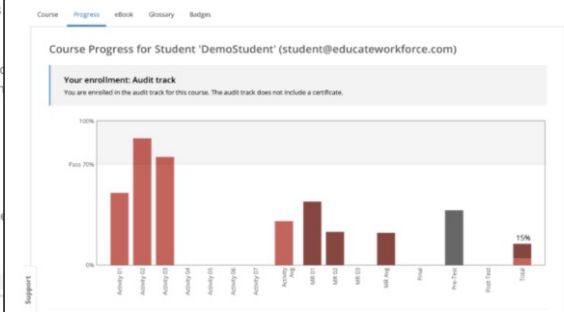


## Graded Progress



To see your scores on individual problems represented in both a chart and a list, as well as your current overall course grade, select the **Progress** page from anywhere in the course.

On the **Progress** page, a chart shows how you have performed for each graded assignment in the course.



Progress Page Bar Graph Breakdown

Assignments are listed along the horizontal axis, and the percentage score that you received in each lesson is read from the vertical axis. Markers on the vertical axis reflect the grading scale for the course.

The bar for each assignment reflects your total score for all the problems in that assignment.

The **Progress** page also includes your scores for individual problems within an assignment. Below the grading chart is a listing of course sections in the order that they occur in the course.

For each problem in a graded assignment, the points that you earned out of the possible points is shown with the label **Problem Scores**. Scores for ungraded problems are shown with the label **Practice Scores**. Sections that do not have any problems are labelled as having no problem scores.

# Certificate **Achievements**

Provides articles related to award recognition for the learner:



## Certificates

- How are Certificates Delivered
- Where Can I Find My Course Certificate?



## How Are Certificates Delivered?



These achievements are delivered online through the [EducateWorkforce](#) platform site. The platform does not send physical copies of certificates. However, if you are interested in downloading, sharing, and uploading your certificate, you can find more information [here](#).

If you earn a certificate, you will be able to view them on your EducateWorkforce course [Dashboard](#) or within the course [Progress](#) page. You can find more information about certificates below!



Demo Student, you earned a certificate!  
Congratulations! This page summarizes what you accomplished. Show it off to family, friends, and colleagues in your social and professional networks.



1

EducateWorkforce acknowledges the following student accomplishment





# FAA Curriculum Adoption

Platform Metrics, Petition for Exemption, FAQ, Credit



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# Platform Metrics



## Monthly Active Users (MAUs)

- For a given period (calendar month), the number of unique learners that have accessed the platform at least once.

Period	Monthly Active Users	Difference vs. Previous Period
2022/03	96	-2
2021/12	98	+30
2021/11	68	-15
2021/10	83	-14
2021/09	97	-2
2021/08	99	+66
2021/07	33	N/A

### Registered Learners

222 | 2 Since last month

hide history

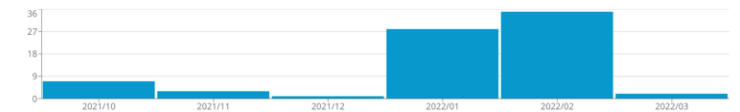


- Total users that have created an account on the platform.

### New Learners

2 | -33 Since last month

hide history

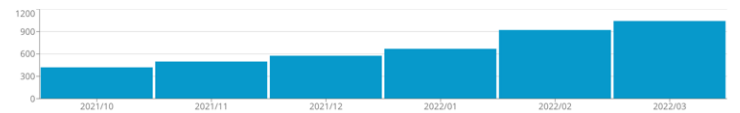


- Total new users that have created an account on the platform.

### Course Enrollments

1042 | 121 Since last month

hide history

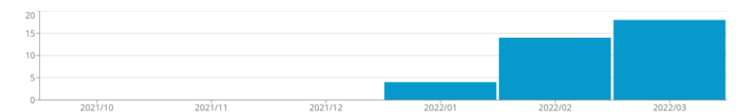


- Total times registered learners have enrolled or been enrolled in course(s) on the platform.

### Course Certificate Completions

18 | 4 Since last month

hide history



- Total times learners across all courses have completed a course and been awarded a certificate of completion.

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# Petition for Exemption

- Choose Aerospace [filed a petition for exemption](#) from § 65.77 asking the FAA to give students that complete the Choose Aerospace maintenance curriculum the opportunity to take the FAA general written knowledge test.
- If granted, the exemption would:
  - provide an often-necessary credential for high school technical programs
  - encourage matriculation agreements into secondary education,
  - provide third-party validation of knowledge for employers.
- FAA response expected by Jan. 7.



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# Commonly Asked Questions

- Is the curriculum FAA approved?
- How can I transfer credits without knowing seat time?
- How am I supposed to issue credit if the students haven't *touched* anything?
- How much credit should I issue?
- How will this be different under the new part 147?



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## Regulations Governing Issuance of Credit § 147.31(c)(2)

[T]he school may credit a student with instruction or previous experience:

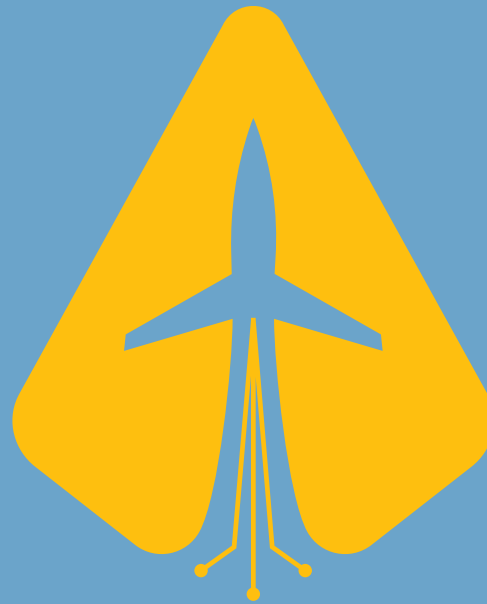
- (1) A school may credit a student with instruction satisfactorily completed at
  - (i) An accredited university, college, junior college;
  - (ii) An accredited vocational, technical, trade or **high school**;
  - (iii) A military technical school;
  - (iv) A certificated aviation maintenance technician school.
- (2) A school may determine the amount of credit to be allowed -
  - (i) **By an entrance test equal to one given to the students who complete a comparable required curriculum subject at the crediting school;**
  - (ii) By an **evaluation of an authenticated transcript** from the student's former school;  
or
  - (iii) In the case of an applicant from a military school, only on the basis of an entrance test.



# Next Steps

- Visit [chooseaerospace.org/curriculum](https://chooseaerospace.org/curriculum)
- Identify local coalition and high school partners
- Invite Choose Aerospace leadership to brief stakeholders
- Teacher professional development scheduled for June 8-9 in Tulsa





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[www.chooseaerospace.org](http://www.chooseaerospace.org)