



SOUTHWEST
TEXAS★COLLEGE

www.swtxc.edu

Aircraft General Maintenance

Airframe Mechanics

Southwest Texas College

Purpose

The Aircraft General Maintenance Program is a Level 1 Certificate program for those who desire to gain knowledge and skills in the aviation maintenance field. Skills in aviation shop practices, ground operations, aviation science, basic electricity, weight & balance, and federal aviation regulations, shop safety, servicing and general operating procedures will be covered. Students completing the certificate will be able to seek entry-level employment in aircraft general maintenance related fields.

Purpose

Airframe Mechanics is a Level 2 Certificate program for those who desire to gain knowledge and skills in the Airframe Mechanics field. Skills in aviation Shop Practices, Ground Operations, Aviation Science, Basic Electricity, Landing Gear Systems, and Airframe Inspection will be developed along with related learning in areas such as shop safety, servicing and general operating procedures. Courses will be taught through the use of the Federal Aviation Administration (FAA) 147 curriculum. This degree plan prepares and qualifies students to take Federal Aviation Administration (FAA) mechanic's exams for General Airframe. Students completing the certificate will be able to seek entry-level employment in Airframe Mechanic related fields.



Carlos Lopez
Division Chair
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Donald J. McBlain
Program
Coordinator
Instructor



Donald J. McBlain
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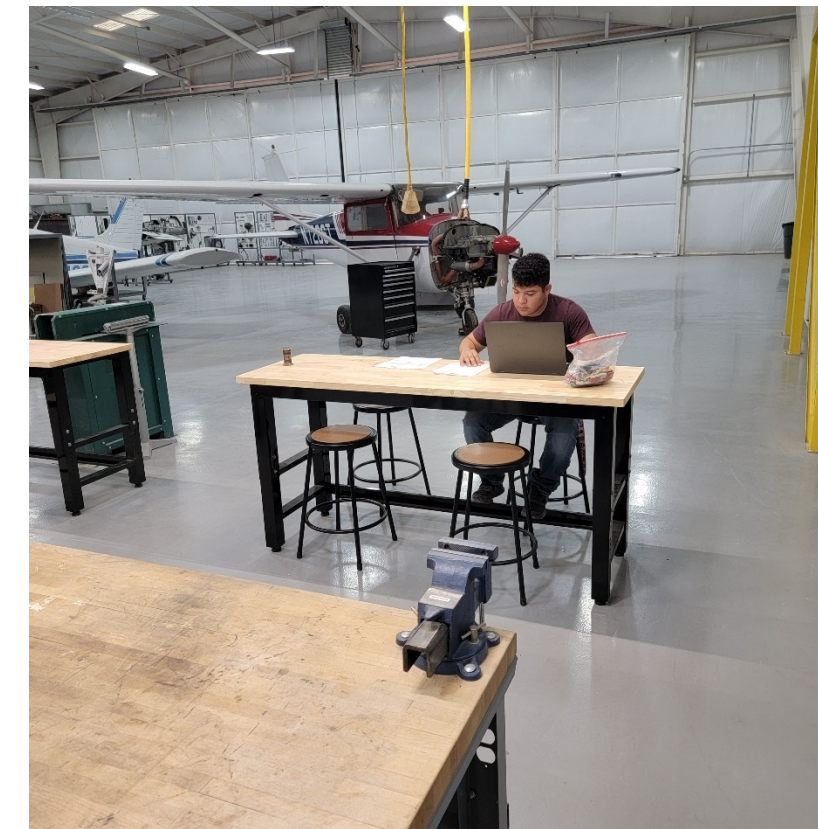
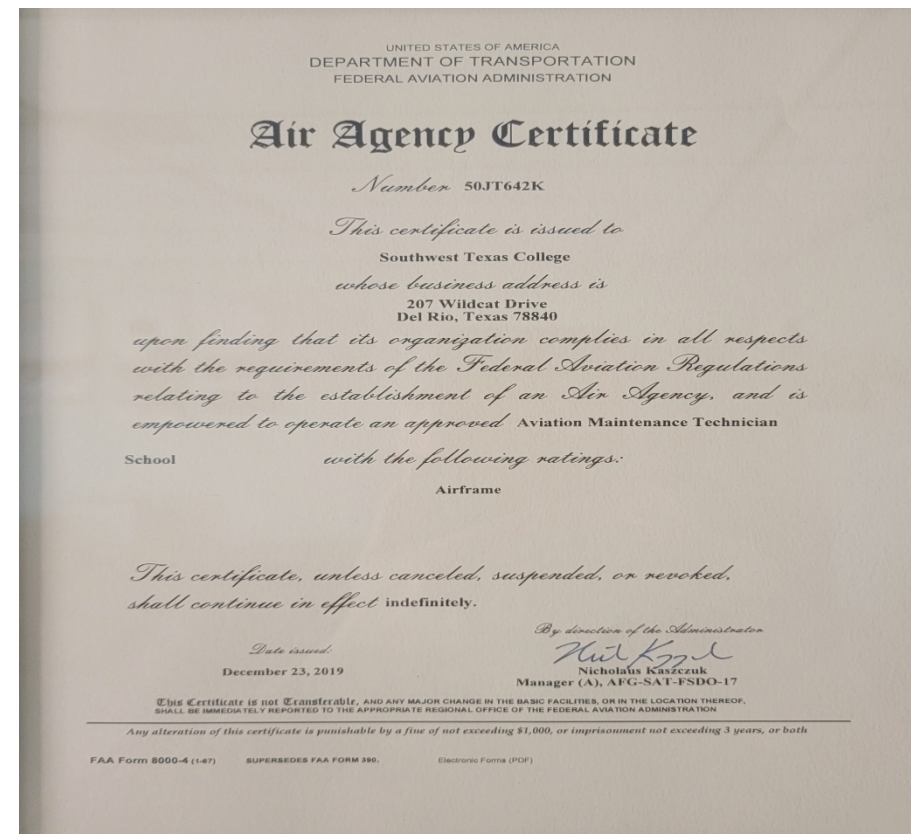
Abraham Herrera
Instructor
SFDRICSD

SOUTHWEST
TEXAS ★ COLLEGE

Degrees and Certificates

AIRCRAFT GENERAL MAINTENANCE LEVEL ONE CERTIFICATE – BASIC

AIRFRAME MECHANICS LEVEL TWO CERTIFICATE



Degrees and Certificates

AIRCRAFT GENERAL MAINTENANCE LEVEL 1 CERTIFICATE

Program of Study

Fall Semester		<u>Credit</u>	Spring Semester		<u>Credit</u>
AERM 1203	Shop Practices.....	2	AERM 1314	Basic Electricity.....	3
AERM 1315	Aviation Science.....	3	AERM 1208	Federal Aviation Regulations.....	2
AERM 1210	Ground Operations.....	2	AERM 1205	Weight & Balance.....	2
COSC 1301	Introduction to Computing.....	3			
Total		10	Total		7
			Total Credit Hours for Certificate		17

AIRFRAME MECHANICS LEVEL 2 CERTIFICATE

Program of Study

Fall Semester		<u>Credit</u>	Spring Semester		<u>Credit</u>
EDUC 1300 Learning Framework or COLS 0300 College Success Skills			AERM 1345	Airframe Electrical Systems.....	3
			AERM 1247	Airframe Auxiliary Systems.....	2
			AERM 1349	Hydraulic, Pneumatic, & Fuel Systems.....	3
			AERM 1350	Landing Gear Systems	3
			AERM 1352	Aircraft Sheet Metal	3
			Total		14

Fall Semester	<u>Credit</u>
AERM 1243	Instruments & Navigation/Communication.....2
AERM 2233	Assembly & Rigging.....2
AERM 1253	Aircraft Welding.....2
AERM 1241	Wood, Fabric, & Finishes.....2
AERM 1254	Aircraft Composites.....2
AERM 2231*	Airframe Inspection.....2
	Total12
	Total Credit Hours for Certificate.....40



Future of Program

General Maintenance Revisions

REVISED Program Catalog

AIRCRAFT GENERAL MAINTENANCE LEVEL 1 CERTIFICATE *Uvalde/Del Rio Campuses*

Program of Study

The AERM courses in the Program of Study for the Aircraft General Maintenance Level I Program taught at a SWTX instructional site will not satisfy the course requirements for the Airframe Mechanics Level II Program unless the instructor at that instructional site possesses Federal Aviation Administration licensure and the instructional site is a Federal Aviation Administration-approved site.

<i>Spring Semester</i>	Credit
AERM 1303 Shop Practices	3
AERM 1315 Aviation Science.....	3
AERM 1210 Ground Operations	2
AERM 1314 Basic Electricity.....	3
AERM 1205 Weight & Balance	2
AERM 1208 Federal Aviation Regulations	
or	
AERM 1291 Special Topics in Aircraft Mechanic	
/Technician Airframe.....	2
Total Credit Hours for Certificate	15

AIRCRAFT GENERAL MAINTENANCE LEVEL 1 CERTIFICATE *Del Rio High School Campus*

Program of Study

The AERM courses in the Program of Study for the Aircraft General Maintenance Level I Program taught at a SWTX instructional site will not satisfy the course requirements for the Airframe Mechanics Level II Program unless the instructor at that instructional site possesses Federal Aviation Administration licensure and the instructional site is a Federal Aviation Administration-approved site.

<i>Fall Semester</i>	Credit
11 th Grade Students	
AERM 1303 Shop Practices	3
AERM 1315 Aviation Science.....	3
12 th Grade Students	
AERM 1314 Basic Electricity.....	3
AERM 1205 Weight & Balance	2
ITSC 1301 Introduction to Computers	3

<i>Spring Semester</i>	Credit
11 th Grade Students	
AERM 1210 Ground Operations	2
12 th Grade Students	
AERM 1208 Federal Aviation Regulations	
or	
AERM 1291 Special Topics in Aircraft Mechanic	
/Technician Airframe.....	2
Total Credit Hours for Certificate	18



Future of Program

Airframe and Powerplant Mechanics Revisions

Revised Program Catalog

Admission Requirements

Students are admitted through regular college admission procedures (*see Admission Regulations section*). This Level 1 Certificate is TSI waived; however, those students who are not TSI complete or "College Ready" are encouraged to enroll in college preparatory/developmental coursework or material. Students will receive a Level 1 Certificate upon satisfactory completion of the courses of study and upon submitting a formal application for graduation (*see the Curricula section*).

AIRFRAME MECHANICS

Level 1 Advanced Certificate

Purpose

Airframe Mechanics is a Level 1 Advanced Certificate program for those who desire to gain knowledge and skills in the Airframe Mechanics field. Skills in aviation, Shop Practices, Ground Operations, Aviation Science, Basic Electricity, Landing Gear Systems, and Airframe Inspection will be developed along with related learning in areas such as shop safety, servicing, and general operating procedures. Courses will be taught through the use of the Federal Aviation Administration (FAA) 147 curriculum. This degree plan prepares and qualifies students to take the Federal Aviation Administration (FAA) mechanic's exams for General and Airframe. Students completing the certificate will be able to seek entry-level employment in Airframe Mechanic-related fields.

Summer I Semester	Credit
AERM 1352 Aircraft Sheet Metal.....	3
AERM 1347 Airframe Auxiliary Systems.....	3
Total	6
Summer 2 Semester	Credit
AERM 1349 Hydraulic, Pneumatic, & Fuel Systems.....	3
AERM 1243 Instruments & Navigation/Communication....	2
Total	5

Fall Semester	Credit
AERM 1345 Airframe Electrical Systems.....	3
AERM 1350 Landing Gear Systems.....	3
AERM 2233 Assembly & Rigging.....	2
AERM 1254 Aircraft Composites	2
AERM 2231* Airframe Inspection.....	2
Total	12

* Capstone Course

Total Credit Hours for Certificate23

POWERPLANT MECHANICS

Level 1 Advanced Certificate

Del Rio Campus

Purpose

Powerplant Mechanics is a Level 1 Advanced Certificate program for those who desire to gain knowledge and skills in the Powerplant Mechanics field. Skills in aviation, Shop Practices, Ground Operations, Aviation Science, Basic Electricity, Reciprocating and Turbine Engines, Propellers, Engine Fuel and Electrical Systems, and Powerplant Inspection will be developed along with related learning in areas such as shop safety, servicing, and general operating procedures. Courses will be taught through the use of the Federal Aviation Administration (FAA) 147 curriculum. This degree plan prepares and qualifies students to take the Federal Aviation Administration (FAA) mechanic's exams for General and Powerplant. Students completing the certificate will be able to seek entry-level employment in Powerplant Mechanic-related fields.

Spring Semester	Credit
AERM 1340 Aircraft Propellers.....	3
AERM 1444 Aircraft Reciprocating Engines.....	4
AERM 1351 Aircraft Turbine Engine Theory.....	3
AERM 1456 Aircraft Powerplant Electrical Systems.....	4
Total.....	14

Total Credit Hours for Certificate27

* Capstone Course

Summer I Semester	Credit
AERM 1357 Fuel Metering and Induction Systems.....	3
AERM 2447 Aircraft Reciprocating Engine Overhaul.....	4
Total	7

Summer II Semester	Credit
AERM 2351 Aircraft Turbine Engine Overhaul.....	3
AERM 2352 * Powerplant Inspection.....	3
Total	6

Aircraft and Avionics Equipment Mechanics and Technicians Median Annual Wages,

Avionics Technicians:	\$81,390.00
Aircraft and Avionics Equipment Mechanics and Technicians:	\$79,140.00
Aircraft Mechanics and Service Technicians:	\$78,680.00
Installation, Maintenance, and Repair Occupations:	\$58,230.00
Total, All Occupations:	\$49,500.00

Note: All Occupations includes all occupations in the U.S. Economy.

Source: U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics

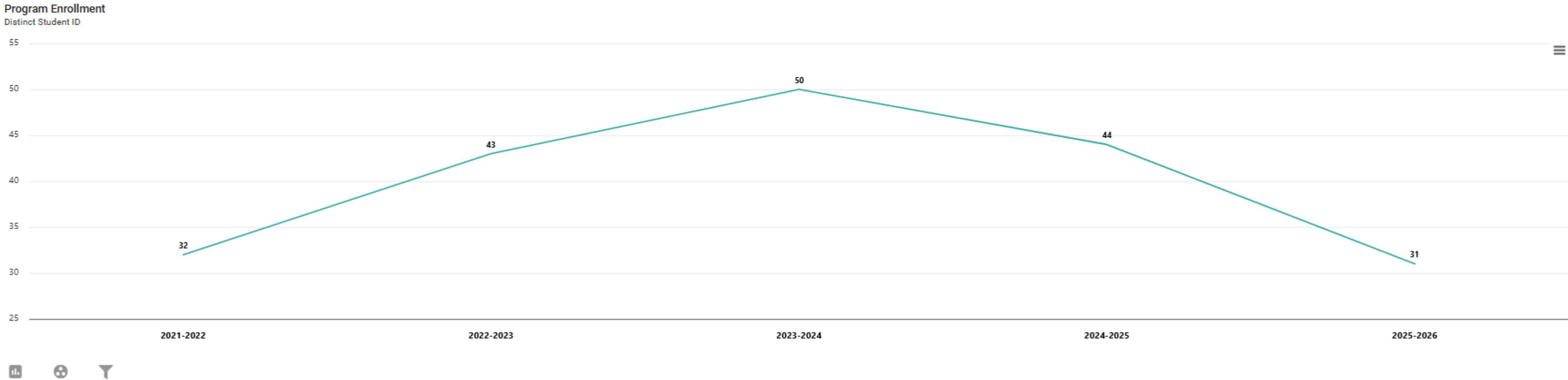
Aircraft General Maintenance & Airframe Mechanics Advisory Dashboard

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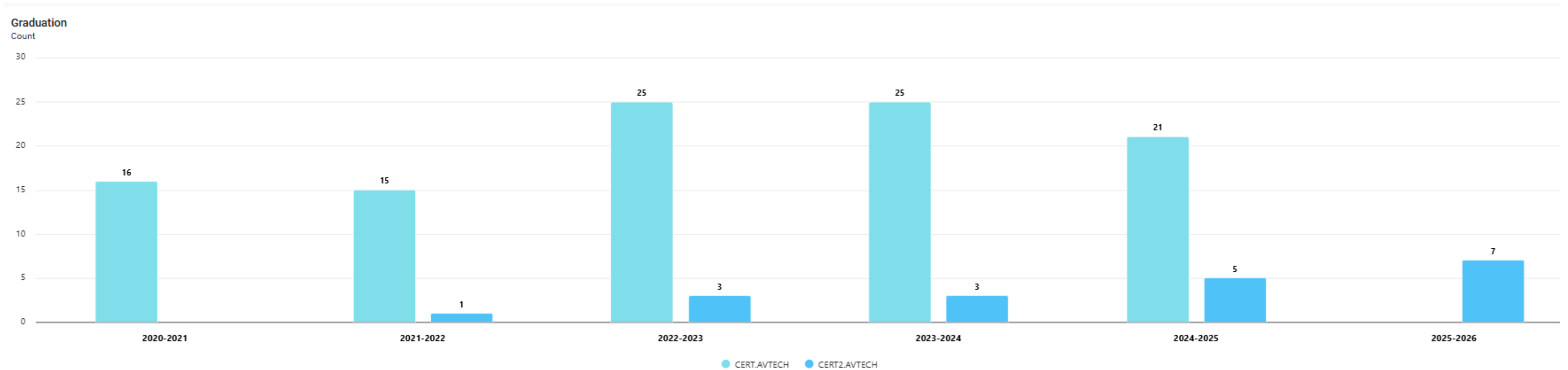
Dataset(s): Aircraft General Maintenance Advisory Dataset || Awards and Degrees for Tech Dashboards

Demographic Information

This section contains information regarding student demographics: overall enrollment, gender, race/ethnicity, & Pell reciprocity.



Graduation



Milestones

- **Del Rio Hanger Move**
 - Lease ended in old hanger moved to new facility.
- **Revised Curriculum for Target Powerplant Program**
 - Revision to General Maintenance, Airframe Mechanics to accommodate introduction of future Powerplant Mechanics Program.
- **FAA Inspection**
 - First inspection in 2 years. Facility Approved. Updates to Ops Manual Pending. Went Really Well!
- **Del Rio HS Future**
 - FAA Satellite Campus Approval and Instructor Approval.



TIMELINE

2021

- DEL RIO CAMPUS - POST COVID RESTART.
- 6 STUDENTS ENROLLED.

2022

- FAA RULES CHANGE.
- UVALDE CAMPUS - START-UP. 4 STUDENTS ENROLLED AT UVALDE CAMPUS.
- 6 STUDENTS ENROLLED AT DEL RIO CAMPUS.

2023

- 7 Students enrolled at Del Rio Campus.
- 4 Students enrolled at Uvalde campus.

2024

- 10 Students enrolled at Del Rio Campus.
- 5 Students enrolled at Uvalde campus.

2025

- Del Rio - New Hangar
- Uvalde - Up Hanger



AVIATION MAINTENANCE

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Thank You to the Board of Trustees of Southwest Texas College

We sincerely appreciate your dedication and service on the college board. Your time, leadership, and thoughtful attention to the diverse programs offered at Southwest Texas College play a vital role in shaping the future of our students and community.

Thank you for your continued support and commitment to excellence in education!