

**GREAT PLAINS TECHNOLOGY CENTER
COURSE OF STUDY**

Career Cluster: Science, Technology, Engineering and Mathematics (SC)

Career Pathway: Engineering and Technology

Local Program: Aviation Maintenance (SC0026005)

Program Hours: Secondary Students: 500 Hours
Adult Students 500 Hours

<u>Instructors:</u>	Name	Office	E-Mail
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Credits: Secondary Students: 3 high school credits per year – *OK Promise credit

Program Description:

This program provides students with broad and varied experience in aviation science and theory related to aircraft shop practice, maintenance, and repair. Students are prepared for a career as aircraft structural technicians and support personnel. Topics include flight line and shop safety, aircraft structures, metals, hand tools, and measuring devices, aircraft riveting, hardware, technical drawings, forming processes, structural repair, and corrosion control. Students are expected to be members of the programs CTSO organization TSA or SkillsUSA.

Program Goals:

Goals for a maintenance aviation course are designed to equip students with the knowledge, skills, and practical experience needed for a successful career in aircraft maintenance.

- Understand and adhere to aviation regulations and safety standards set by relevant authorities, such as the Federal Aviation Administration (FAA) in the United States.
- Develop a comprehensive understanding of aircraft systems, including airframes, powerplants, avionics, and other critical components.
- Learn and practice aircraft maintenance procedures, including inspections, repairs, and troubleshooting techniques.
- Emphasize safety protocols and procedures to ensure the well-being of maintenance personnel and the airworthiness of the aircraft.
- Gain proficiency in documenting maintenance activities accurately and in compliance with regulatory requirements.
- Acquire hands-on technical skills related to tools, equipment, and technologies used in aircraft maintenance.
- Develop the ability to identify, analyze, and troubleshoot mechanical and electrical issues in aircraft systems.
- Enhance communication skills to effectively interact with team members, pilots, and other aviation professionals.
- Foster a collaborative mindset to work effectively within a maintenance team, recognizing the importance of coordination and communication.
- Promote ethical conduct and professionalism in all aspects of aircraft maintenance, including honesty, integrity, and responsibility.

- Understand the importance of preventive maintenance and develop skills in creating maintenance schedules to prevent potential issues.
- Learn about quality assurance measures to ensure that maintenance work meets or exceeds industry standards.
- Prepare students for entry into the aviation workforce by providing career development support, including resume building and interview skills.

Career Opportunities:

- Aviation Structural Technician
- Aircraft Maintenance Professional

DESCRIPTION OF COURSES

<u>Course #</u>	<u>Course Name</u>	<u>Theory</u>	<u>Lab</u>	<u>Total</u>
ST00282	Applied Sciences of Aircraft (8886*) – Computer Technology	72	48	120
Students will learn the fundamental principles governing the flight of aircraft in this in-depth exploration of aerodynamics and flight sciences. This topic focuses on the applied sciences that contribute to the design, performance, and maneuverability of aircraft. They will gain a comprehensive understanding of the key concepts that drive flight, including lift, drag, and stability.				
ST00281	Aviation Electricity (8887*) - Computer Technology	72	48	120
Students will study aviation electricity and avionics systems with this comprehensive topic. Designed for aviation enthusiasts, students, and professionals, this exploration delves into the intricate realm of electrical systems that power and control modern aircraft.				
ST00280	Aircraft Materials and Corrosion Control (8885)	72	48	120
Explore materials that compose aircraft structures and the strategies employed to mitigate the impact of corrosion. Students evaluate aircraft materials science and corrosion control, essential aspects for ensuring the structural integrity and longevity of aviation assets.				
ST00284	Aerospace Capstone (8883)	80	60	140
This experience offers a hands-on opportunity for students to apply their knowledge and skills in a real-world aerospace project, fostering creativity, critical thinking, and teamwork.				
ST00263	Aviation I (8874) - STEM Elective Course	72	48	120
This course provides the foundation for advanced exploration in flying, aerospace engineering, and unmanned aircraft systems. Students will learn about engineering practices, problem-solving, and the innovations and technological developments				
ST00264	Aviation II (8875*) – Computer Credit	72	48	120
Students will begin with an exploration of the types of aircraft in use today before learning how aircraft are made and how they fly. Students will understand how aircraft are categorized, be able to identify their parts, and learn about aircraft construction techniques and materials.				

Program Total:

- Theory Hours – Dependent on courses taken
- Lab Hours – Dependent on courses taken
- Total Hours One Year - 500 hours

Evaluation Policy:

Academic Grades (25% of final grade)

Students are expected to complete all practice exercises whether assigned in class or for homework. Knowledge assignments will include, but not limited to, vocabulary, notes, supplemental problems, quizzes, and tests.

Employability Grades (25% of final grade)

The employability skills grade is based on 20 points per day (which may include: attitude, attendance, safety, punctuality, cooperation, participation, clean-up, class preparation, school/classroom rules, and time management). Points will be deducted if these responsibilities are not met at the instructor's discretion. Students will be allowed to make up unearned employability points for **excused** absences only. Full credit will be given for assignments/tests that have been made up due to excused absences only (see Student Handbook)

Performance Grades (50% of final grade)

The performance and assessment portion of your grade will be based on how well you can effectively demonstrate your understanding of skills and concepts through projects, labs, various activities, and student employability skills. You will also be required to develop a portfolio of your work and maintain your unit notes. The instructor will provide guidelines on how the development of your portfolio as well as how to maintain organization of unit notes.

Final Grade (Semester)

Semester grade will be calculated by averaging grades in each category and summing each category according to their assigned weight. Progress reports will be sent to home schools at six and twelve-week intervals each semester as required or requested. Grades are accessible on-line at <http://sonisweb.greatplains.edu/studsect.cfm>

Grading Scale:

The grading scale as adopted by the Board of Education is as follows:

A = 90 – 100	W = Withdrawn
B = 80 – 89	I = Incomplete
C = 70 – 79	N = No Grade
D = 60 – 69	
F = Below 60	

Make-Up Work Policy:

All Make-Up Work Is the Responsibility of The Student. Make-up work will be handled as specified in the Student Handbook. Please be sure to read and understand all student policies, especially make-up of assignments, tests, and employability due to absences. Students should always arrange for any make-up work with the instructor as per the Student Handbook. Students should keep track of his or her progress and grades.

Safety Precautions:

Computers, printers, graphing calculators, measurement tools (compasses, etc.), and all other equipment are for educational purposes only! Students should not attempt to “fix”, tamper or play with any school property. The instructor should be informed immediately of any problems with equipment.

Attendance Policy:

For specific information related to attendance and tardiness refer to the Student Handbook. Students should keep a written record of their absences and tardiness.

Program Requirements and Expectations:

The general course requirements and expectations include:

- Training methods will consist of lecture, individualized instruction, and practical application.
- All students must adhere to policies and procedures in the GPTC student handbook.
- Students are expected to be members of the programs CTSO organization TSA or SkillsUSA.

Student Behavior Includes:

- Students should enter the engineering classroom as a young professional.
- Employability skills are EXPECTED behaviors.
- Students not riding school buses should be in the classroom by 8:00 a.m. and 11:50 p.m. to be punctual.

NOTE: For additional information or questions regarding the GPTC School policies and procedures, please refer to the Student Handbook and/or the instructor.

Industry Alignments:

- Federal Aviation Administration

Certification Outcomes:

- FAA Part 147 (note: GP Tech is not a FAA Part 147 Certified School – certification would have to take place at a certified site)

CIP Code and SOC Code Crosswalk:

SOC: 49-2091 – Avionics Technicians

49-3011 – Aircraft Mechanics and Service Technicians

CIP: 47.0607 – Airframe Mechanics and Aircraft Maintenance/Technician

OCAS program codes:

9879 Aerospace Program (SC0026005)

OCAS course codes:

8883 Aerospace Capstone

8885 Aircraft Material and Corrosion Control

8886 Applied Science of Aircraft

8887 Aviation Electricity

Instructional Materials and Supplies:

Students are not required to purchase textbooks or supplemental materials.

eLearning Curriculum:

Choose Aerospace