



## Butler Tech Aviation Exploration Essential Skills Profile

This profile provides an outline of the skills required for the successful completion of this career program. Additional information is located on the Butler Tech website at: <https://www.butlertech.org/high-school/> and selecting the corresponding career program.

### Recommended WorkKeys® Scores for Aviation Exploration

Applied Mathematics - 4	Graphic Literacy - 4
Workplace Documents - 5	

\*Practice tests and more information at: [www.act.org/workkeys](http://www.act.org/workkeys)

### Skills

Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
Repairing	Repairing machines or systems using the needed tools.
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

### Abilities Required

Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures and mathematical operations).

### Knowledge Required in Aviation Exploration

Mechanical	Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
English Language	Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
Engineering and Technology	Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

## Aviation Exploration Activities

- Formulate mathematical models or other methods of computer analysis to develop, evaluate, or modify design , according to customer engineering requirements.
- Direct or coordinate activities of engineering or technical personnel involved in designing, fabricating, modifying, or testing of aircraft or aerospace products.
- Work as part of a flight team with other crew members.
- Contact control towers for takeoff clearances, arrival instructions, and other information, using radio equipment.
- Ensure that weight and balance specifications are met.
- Inspect aircraft for defects and malfunctions, according to pre-flight checklists.
- Choose routes, altitudes, and speeds that will provide the fastest, safest, and smoothest flights.
- Inform pilots about nearby planes or potentially hazardous conditions, such as weather, speed and direction of wind, or visibility problems.
- Issue landing and take-off authorizations or instructions.
- Relay air traffic information, such as courses, altitudes, or expected arrival times, to control centers.
- Analyze factors such as weather reports, fuel requirements, or maps to determine air routes.
- Use instrumentation to pilot aircraft when visibility is poor.
- Start engines, operate controls, and pilot airplanes.
- Request changes in altitudes or routes as circumstances dictate.
- Instruct other pilots and student pilots in aircraft operations.

## Technology

Information retrieval or search software	Data base user interface and query software
Facilities management software	Analytical or scientific software
Enterprise resource planning ERP software	

## Personality

Realistic: People interested in this work like activities that include practical, hands-on problems and solutions. They do well at jobs that need:	
Attention to Detail	Persistence
Integrity	Self-Control
Dependability	Adaptability / Flexibility

## Available Certifications

Aircraft Instrument Ratings (IFR)	Part 107 Remote Pilot Certification (6 Points)
Private Pilot's License (written test)	

## Possible College Credits

College Credit Plus in English, Math, Social Studies, or Science	Must be preapproved. Must pass a college course at an Ohio college or College Credit Plus class at Butler Tech.
Career Technical Credit Transfer	<p>The Ohio Transfer to Degree Guarantee helps career and technical students transfer credits earned in high school to community college or four-year degree programs. The credit can be used at any Ohio public college or university:</p> <ul style="list-style-type: none"> <li>• If you successfully completed your career-technical program and passed certain required assessments.</li> <li>• If you attend a similar program at a public Ohio college or university.</li> </ul> <p>For more information, go to <a href="http://www.transfercredit.ohio.gov">www.transfercredit.ohio.gov</a></p>
Articulated Credit	Butler Tech has agreements with certain colleges; if you attend one of those colleges you can get credit toward a specific degree.

\*Additional college or post-secondary education may be required in this field

## Possible Career Pathways

FAA-Certified Airframe Mechanic	Aircraft Salesperson
Airline Mechanic	General Manager