



Arkansas Wing



External Aerospace Education Outreach Program

The purpose of the External Aerospace Education Outreach Program is to give educators, educational outreach programs, and others access to a comprehensive, K-12 aerospace curriculum that can be used in your classroom or educational setting. These lessons, which can be used standing-alone or as part of a thematic unit, are engaging, STEAM Project-Based Learning activities with an aerospace theme and fit all subject areas, including Physical Fitness, Art, and Character Ed.

K-6 Elementary Level – Over 150 different lessons

- ✈ *Aerospace Connections in Education (ACE)*
 - Each grade level (K-6) has its own booklet – enrolled classes get special certificates from CAP HQ.
 - Academic, Character, and Physical Fitness-specific lessons
- ✈ *Aerospace Education Excellence (AEX) I*
 - Lots of in-depth aerospace activities with lesson plan, background, and preparation details
- ✈ *Activity Books*
 - Amelia Earhart
 - Wright Brothers
 - *Uncle Wiggly Wings* (The “Candy Bomber” during the Berlin Airlift)
- ✈ *Aerospace Book of MiniLogic and Puzzles*
- ✈ *Aerospace Activities for the Very Young (PreK-2)*

6 – 8 Middle School - Over 175 different lessons plus Specialized and Computer-based Curriculum (on pg 2)

- ✈ *Aerospace Dimensions Modular Textbook*
 - From Introduction to Flight through Space, these 6 modules are a complete textbook designed for use in middle school classrooms.
- ✈ *Aerospace Education Excellence (AEX) II* (can also be used at high school level)
 - Life Sciences
 - Earth and Space Sciences
 - Physical Science
 - Aeronautic and Space Activities
- ✈ *Thematic Units* (Cross-curricula w/ ESL and SpecEd modifications)
 - Wright Brothers
 - International Space Station
 - General Aviation
 - Charles Lindberg
 - Amelia Earhart

8 – 12 High School – Everything in Middle School Plus over 50 more.

- ✈ *Journey of Flight Textbook*
 - Award winning, comprehensive Aerospace Education textbook covers in 27 chapters everything aviation and space – past, present, and future.
- ✈ *Aerospace Education Excellence (AEX) II*
 - Advanced Math
 - Aeronautic and Space Activities

Continued

6 – 12 Specialized and Computer-based Curriculum

✈ CAP-TERS

- Satellite Imagery-based where students analyze images and deduct what is happening in them incorporating all 4 core content areas

✈ Satellite Toolkit

- Students learn orbital mechanics, satellite missions, sensing systems, create world-wide satellite linkage systems with ground, air, and space assets.

✈ Rocketry

- Introduction to Rocketry (6-12)
- Advanced Rocketry (9-12)

✈ CyberSecurity

- Intro to CyberSecurity
- CyberPatriot Competition

✈ Introduction to Robotics

- Building and understanding robotics and their application to NASA and commercial uses

✈ Astronomy

- Intro to Astronomy
- Astronomy Activity Booklet

✈ Model Aircraft and Remote Control (Unmanned Aerial Systems)

- Intro to MARC
- MARC II – Activity Book

STEM KITS – These free STEM kits come complete with lessons and /or augment above curricula.

Telescope

Robotic Arm

Flight Simulator

Hydraulic Engineering Kit

Remote Control Aircraft

Model Rockets

Quadcopter

Weather Station

Raspberry Pi

Arkansas Wing provides Introductory and Continuing Education for all Aerospace Education Members. CAP also provides community-based Aerospace Education for the public interested in aerospace. Arkansas Wing is an Arkansas Department of Education (ADE) Professional Development (PD) provider for all AR certified teachers. Educators will receive official ADE PD Credit when attending.

Arkansas Wing can also provide (upon request) Civil Air Patrol members who will assist educators in presenting an Aerospace lesson, project or as a guest speaker.

An Aerospace Education Conference is held each year for educators, informal educators, CAP officers and Cadets. This conference, usually in early spring, is a state-wide event where aerospace education is celebrated. Hands-on activities for cadets, officers, and educators, break-out sessions for Aerospace Education Officers, Aerospace Education Members, and attending educators discussing Project-Based Learning activities, sharing and demonstrating new ways to instruct aerospace lessons, and new aerospace opportunities (like BALLOONSAT and CUBE SAT) for all involved.

For more information about Arkansas Wing, Directorate of Aerospace Education, visit: arwingcap.net/AE

For more information about the Civil Air Patrol's Aerospace Education, visit: ae.capmembers.com

Civil Air Patrol, the longtime all-volunteer U.S. Air Force auxiliary, is the newest member of the Air Force's Total Force, which consists of regular Air Force, Air National Guard and Air Force Reserve, along with Air Force retired military and civilian employees. CAP, in its Total Force role, operates a fleet of 550 aircraft and performs about 90 percent of continental U.S. inland search and rescue missions as tasked by the Air Force Rescue Coordination Center and is credited by the AFRCC with saving an average of 78 lives annually. Civil Air Patrol's 56,000 members nationwide also perform homeland security, disaster relief and drug interdiction missions at the request of federal, state and local agencies. Its members additionally play a leading role in aerospace education and serve as mentors to more than 24,000 young people currently participating in the CAP cadet program. Performing missions for America for the past 75 years, CAP received the Congressional Gold Medal in 2014 in honor of the heroic efforts of its World War II veterans. CAP also participates in Wreaths Across America, an initiative to remember, honor and teach about the sacrifices of U.S. military veterans. Visit www.capvolunteernow.com for more information.