AFA Aerospace Education Programs

AIR & SPACE FORCES ASSOCIATION

Educator Grants

The Air & Space Forces Association believes that one of the most significant means to affect student learning is to fund grants to meet the unmet and unfunded educational needs of students. Each school year, the Association awards grants of up to $600 to worthy projects that significantly influence student learning.

AFA will accept grant applications from **September 1 – December 15**. The grant process is competitive in nature. A committee comprised of outside experts in the field of aerospace education will review all qualified grant applications and make recommendations on funding. Based upon the funding available, AFA will choose to invest in projects that best serve our nation's students and support AFA's mission.

The Educator Grant program promotes aerospace education activities in classrooms from kindergarten through twelfth grade. The program encourages development of innovative aerospace activities within the prescribed curriculum. It encourages a deeper connection to STEM as well as historical events/people.

Checklist

Your application may be revised and edited until the final submission deadline at 11:59 PM Eastern Time on **December 15**. Winners will be notified by late February.

- ❑ Visit https://app.smarterselect.com/programs/104786-Air--Space-Forces-Association and log in or create a new account
- ❑ Start a new application on SmarterSelect by clicking "Apply"
- ❑ Step 1: Enter your application data
- ❑ Step 2: Provide project details and project budget information
- ❑ Step 3: Once you have answered all application questions, click "Submit"
- ❑ Step 4: Confirm your submission by clicking "OK"
- ❑ Print your application for your records

If you forget your password, click "reset password" to change it. If you forget your username, send an e-mail to education@afa.org for help.

****** Your spam filter might block our e-mails to you. Be sure to add automated.email@smarterselect.com to your address book to receive important communications. ******

Application Questions

Step 3: Project Details

1. **Project Title**
2. **Lesson Plan**: Provide a detailed lesson plan, including connection to STEM and historically relevant events, the content area(s) the project will focus on and how the project connects to STEM learning. Examples of historical events can be found in the following section. Also include the information below:
    a. **Grade level(s) and Subject(s)** (if applicable) of students involved in your project.
    b. **Lesson Subject Area**. Choose the area that best describes your project.
    c. **Evaluation**. Describe the evaluation methods you will use to measure your project's success. Be specific.
3. **Lesson Plan/Project Relevance to STEM Concepts and Connection to History.** Provide a brief overview of the relevance to STEM concepts and the connection to a historical event or person, including the importance of the lesson and how it relates and will impact/enhance your curriculum. Grant recipients' Lesson Plans will be published on AFA's website with appropriate acknowledgements to the recipients. A Publication Release is included at the end of the application.
4. **How many students will be directly impacted by your project this year?** Describe how they will be impacted.
5. **How many other teachers in your school or district will benefit from your project?** Describe how they will benefit.
6. **Student and/or Educator Impact/Expected Outcome**. Explain the significance of the project and expected impact/achievement/outcome.

Step 4: Lesson Plan/Project Budget

7. **Lesson Plan/Project Budget**. List materials, equipment costs, etc. needed to implement your project. List each item separately. Provide a total amount for all expenses. You may instead upload an Excel spreadsheet or Google Sheet with the information. Please also include the direct website links to the requested supplies.
8. **Additional Information for the Grants Committee**. This may include other sources of financial support, other grants received, school/district demographics, connection to other projects, etc.

Aerospace Historical Events and Figures Sample List

AFA requires two additional elements to the Educator Grant requirements that recognize the true interdisciplinary scope of STEM: Historical Relevance and the Lesson Plan that identifies all other interdisciplinary domains (e.g., Language Arts). The historical element(s) should incorporate appropriate historic relevancy associated with the proposed project. Sample lists of historical events and figures are provided below but are not to be considered all-encompassing.

Historical Events

- 1903 – Wright Brothers' first powered flight, Kitty Hawk, NC
  - The first sustained, controlled, powered flight by humans, launching modern aviation.
- 1927 – Charles Lindbergh's transatlantic solo flight, the Spirit of St. Louis
  - First solo, nonstop flight across the Atlantic Ocean, inspiring global interest in long-distance aviation.
- 1937 – Hindenburg Disaster
- 1939 – First jet-powered flight (Heinkel He 178)
- 1947 – Chuck Yeager breaks the sound barrier, Bell X-1 "Glamourous Glennis"
  - First human to fly faster than the speed of sound, breaking the sound barrier and pushing high-speed flight research.
- 1957 – Launch of Sputnik 1, Soviet Union
  - First artificial satellite to orbit the Earth, initiating the Space Race and space exploration era.
- 1961 – Yuri Gagarin becomes the first human in space, Vostok 1
  - The first human spaceflight, demonstrating the possibility of humans surviving and working in space.
- 1969 – Apollo 11 Moon Landing
  - Neil Armstrong and Buzz Aldrin are the first humans to walk on the moon, fulfilling a major Cold War and scientific goal.
- 1971 – Launch of the first space station, Salyut 1, Soviet Union
  - Beginning of long-duration human presence in space aboard space stations.
- 1976 – Condorde enters service as the first supersonic passenger transport
- 1981 – First flight of the Space Shuttle, STS-1, Columbia
  - The first reusable spacecraft, revolutionizing space access and enabling large-scale orbital missions.
- 1998 – Assembly of the International Space Station (ISS) begins
  - A landmark in international cooperation, long-term human space habitation, and microgravity research.
- 2004 – SpaceShipOne wins the X Prize as the first private human spaceflight
- 2012 – SpaceX's Dragon docks with ISS as the first private company to resupply ISS
- 2021 – Private human spaceflight expands (e.g., Blue Origin, SpaceX, Virgin Galactic)
  - Marked the start of commercial human spaceflight, opening space travel to private companies and non-professional astronauts.

Historical Figures in Aerospace

- Wilbur and Orville Wright – Pioneers of Powered Flight
  - Invented, built, and flew the first successful powered airplane in 1903. Their engineering innovations in control systems made sustained flight possible.
- Charles Lindbergh – Transatlantic Solo Aviator
  - Flew nonstop solo from New York to Paris in 1927, demonstrating the feasibility of long-distance air travel and inspiring the modern aviation industry.
- Amelia Earhart – Aviation Pioneer and Record-Setter
  - First woman to fly solo across the Atlantic. Broke barriers in a male-dominated flied and inspired generations of female aviators.
- Robert H. Goddard – Father of Modern Rocketry
  - Built and launched the world's first liquid-fueled rocket in 1926, laying the groundwork for modern space travel and missile technology.
- Wernher von Braun – Rocket Engineer and Spaceflight Visionary
  - Led development of the V-2 rocket and later NASA's Saturn V, which launched humans to the moon.
- Yuri Gagarin – First Human in Space
  - Orbited Earth in 1961 aboard Vostok 1, becoming the first person to travel into space and a hero of the Space Race.
- Neil Armstrong – First Person on the Moon
  - Commander of Apollo 11; his famous words, "That's one small step for [a] man, one giant leap for mankind," marked a defining moment in human history.
- Chuck Yeager – First to Break the Sound Barrier
  - Flew the Bell X-1 past Mach 1 in 1947, opening the door to supersonic and later hypersonic flight.
- Sergei Korolev – Chief Architect of the Soviet Space Program
  - The lead engineer behind Sputnik, Gagarin's flight, and early lunar probes. Often call the "Chief Designer," he was the Soviet counterpart to von Braun.
- Burt Rutan – Innovative Aerospace Engineer
  - Designer of SpaceShipOne, the first private spacecraft to reach space, and dozens of unconventional aircraft designs.
- Jacqueline Cochrane
  - Held more speed, altitude, and distance records than any other pilot, male or female, at the time of her death in 1980.
- Jean-Pierre Blanchard – Early Balloon Flight Pioneer
- Glenn Curiss – Early Aviation Rival of the Wrights
- John Glenn – First American to Orbit Earth
- Valentina Tereshkova – First Woman in Space
- Elon Musk and Jeff Bezos – Modern Private Aerospace Innovators
- Kelly Johnson – Legendary Lockheed Skunk Works Designer (SR-71, U-2)

Grant Evaluation Criteria

The project description is clear and complete. (0-25 points)
The main body of the proposal should be a clear statement of the work to be undertaken and objectives for the period of the proposed work. It is important that the proposed activities be related to improving, advancing, or enriching student learning. The goals and objectives, and the plans and procedures for achieving them, should be well developed, worthwhile, and realistic.

The project directly supports STEM and is aligned with a specific historically relevant event or person related to aerospace history. (0-15 points)
The proposal should be supporting a historical event or person. The proposal should include specific references to the historical event/person which it supports.

The proposal clearly articulates the relationship to student learning. The proposal enhances, enriches, and advances student learning. (0-15 points)
The project should clearly indicate how the project will advance, improve, or enrich student learning. The results of the project should contribute to the knowledge base of activities that enhance student learning.

STEM Teaching Connection (0-10 points)
Lesson Plan/Project is connected to STEM concepts and/or applies best practices in STEM instruction. Specific examples are included.

The plan to evaluate the success of the project and to measure the benefits to students is complete and appropriate. (0-15 points)
A detailed evaluation plan appropriate to the scale of the project will determine how effectively the project has achieved its goals. Therefore, the project should provide an effective evaluation plan which reflects the proposed educational objectives and practices and is appropriate and adequate for the project's size and scope.

The plans to communicate the results of the project to other professionals are clear and appropriate. (0-10 points)
The proposal should identify how the results of the project would be disseminated broadly to other faculty, administrators, and educators. Project has the capacity to be replicated in other classrooms.

The budget is clearly outlined, justifies the amount requested and includes a description of other sources of support for this project. (0-10 points)
Each proposal must include a budget that documents and justifies the amounts requested. The budget request should be realistic for the project and reflect the goals of the project. Other sources of institutional support are clearly articulated and specific.