



**United States Air Force**

## **Aerospace Propulsion Outreach Program (APOP)**

### **2025-2026 University Application**

The recent growth of APOP is exciting and encouraging. APOP is a friendly design competition to design, build, and test a modification on a small gas turbine engine. Each year there is a different design challenge. For example, this past year, the challenge was to develop a variable area nozzle. APOP exposes students to propulsion as a career opportunity. The program has grown over the years. As part of that growth, we are implementing an application process to emphasize the desired commitment from the universities.

The project will start in September, so the students have adequate time to develop a working design before testing in April. The APOP program will only be successful when there is strong support from the participating university. Our expectations for the university are as follows.

1. An engaged faculty advisor who will advise and guide the student team through the design process.
2. The existence of an appropriate facility at the university to safely run the engine.
3. University support in acquiring hardware to allow for timely fabrication.
4. Publicizing the project at the university to make students aware of the opportunity.
5. Implementing a process to ensure the students are committed and accountable.

In turn, you can expect the following from the APOP Program.

1. Funding for the university to run the APOP project. This is \$14,000 for each school. There is an additional \$5,000 in travel funding provided to schools outside of Ohio.
2. Government mentors for each team to help guide the student's design and answer questions about employment opportunities within the Air Force.
3. An opportunity to test and compete with the finished design at an Air Force facility.
4. A seminar for the students to learn about employment opportunities within the Air Force.
5. A poster session for the students to present their work.

The program will be executed through Innovative Scientific Solutions, Inc. (ISSI). Applications will be accepted until 30 May 2025. Please submit applications by email to ISSI (Jacob Baranski, [jacob.baranski.ctr@us.af.mil](mailto:jacob.baranski.ctr@us.af.mil)). If you have any questions about the application or the program itself, please contact the ISSI point of contact. Applications will be reviewed and ranked according to the provided responses.

## **APOP University Application**

*Please answer the questions below. The university advisor should be the one answering the questions. The completed application should be 2-4 pages in length.*

**University and Department:** university name and department name

**Advisor:** advisor name

**Advisor Email:** advisor email

**University Propulsion Background:**

*e.g., propulsion related classes, propulsion related opportunities*

**What is the level of commitment planned by the advisor?**

*e.g., weekly time commitment, anticipated roles and responsibilities relative to the students*

**Why does your university want to participate in this program?**

**What is the plan to execute manufacturing and testing at your university?**

*e.g., safety procedures, assisting technicians, previous experience, machine shop*

**How will the university implement APOP?**

*Will the project be a senior design project, a capstone project, or a club? Briefly describe the structure.*

**How will the opportunity be advertised to the students?**

**What will the schedule be for student participation in APOP?**

*When will the students start working on the project? How many hours will they work on the project each week?*

**\*\*\*\*\* Please note that APOP aligns with the Fall-Spring school year (Sept-April).**

**We will not accept universities requesting to begin participation in January. \*\*\*\*\***

**How will students be held accountable for working on the APOP project?**

*Students are expected to design, build, and test a working modification to a hobby jet engine. This includes constructing a university-owned and operated thrust stand, data acquisition system, engine, and support hardware. Student teams are also expected to host multiple design reviews throughout the year demonstrating progress to the Air Force program managers and mentors. These reviews ensure the student team is prepared for testing at an Air Force base in the spring.*

**What is the University process for invoicing and billing? How will you ensure that invoices are sent in a timely manner? Do you foresee any issues approving and receiving funding for APOP?**

**\*\*\*\* Universities with outstanding invoices from the previous year will not be accepted. \*\*\*\***

**Additional Comments:**

*Any other information you would like to provide that would benefit your application?*