



# STELLARXPLORERS

## SPACE STEM PROGRAM

A STEM program of the  
Air & Space Forces Association



StellarXplorers is a STEM program of the Air & Space Forces Association, created to inspire high school and middle school students toward careers in space and other science, technology, engineering, and math disciplines critical to our nation's future.

## The StellarXplorers National Space Design Competition

The StellarXplorers National Space Design Competition is a space-focused competition that challenges teams of high school students to solve orbit determination, satellite design, and launch operations missions presented in a series of online rounds. Teams must use the provided scenario (system mission and constraints) to provide the best solution to a real-world space design problem.

To prepare, students are provided with specific training in the use of industry-standard system simulation software – Systems Tool Kit (STK). Teams are also given access to an online professional training course as a curriculum supplement and study resource for the academic quizzes given during the competition. **No prior experience is required to participate.**

Teams consist of an adult team director (usually a teacher) and two to six students from an approved organization (high schools, JROTC, Civil Air Patrol, 4-H clubs, etc.). Teams may also utilize a technical mentor (volunteer space professionals) to help them prepare.

The competition occurs during the school year (October – January). All teams are guaranteed three practice rounds and three qualification rounds before eliminations begin. The top ten scoring teams from the Semifinal Round (February) qualify for an all-expenses-paid trip to the National Finals Competition (April). **For more information, visit [www.stellarxplorers.org/competition/](http://www.stellarxplorers.org/competition/).**

## StellarCamps – Summer Camp Program

StellarCamps are fun space system design camps for 6-12 grade students. Participants can learn about various aspects of space system design, and there is **no prior experience required!** StellarCamps focus on the teamwork and collaborative problem-solving methods associated with sending objects to space, including satellite coverage, determining payload, and how to use Systems Tool Kit (STK) – an industry standard software used by professionals.

During the 5-day camp, students learn about orbits, satellites, rockets, the history of space exploration, basic principles using Systems Toolkit (STK), and much more. They'll take part in hands-on activities and practice exercises to review concepts covered in the curriculum.

On the final day of each StellarCamp, students have the opportunity to participate in a mini-competition scenario to challenge the skills obtained over the course of the week.

Any organization can register to host a camp for their local students!

Learn more at [www.stellarxplorers.org](http://www.stellarxplorers.org) | Contact [info@stellarxplorers.org](mailto:info@stellarxplorers.org)

