Capitol Technology University's

STEM Challenge

Join us for a fun filled day of STEM Challenges and other activities from 9 AM to 3PM for students from middle school through high school age. Discover STEM topics through challenges and compete to win prizes!

Lunch will be provided

November 2nd, 2024

Check in starts at 8:00AM

SESSIONS

Fun with Fixtures for Database Applications

9:00AM - 1:00PM

Students will build a database that will keep an inventory of items related to fun topics. For example, a CD collection, toys…etc. Have the participants pick a topic. The participants will work in clusters with assigned student helpers to guide them through the implementation. This will be competitive in terms of turnover and delivery of a working database with a presentation on how it performs. The participants will present their work. The scoring will be based on time, quality, and clarity. **Space limited to 20 students.**

Construction Challenge with LEGO Blocks (Design and Build)

9:00AM - 1:00PM

Students will be challenged to design and build a free-standing structure from the materials provided with a clock ticking. **Space limited to 20 students.**

All about Drones (flying lessons and competitive racing)

9:00AM - 1:00PM

Students will be given lessons on how to safely fly a drone. The session will then transition into competitive drone racing for prizes. **Space limited to 20 students.**

Cyber Capture the Flag (CTF)

9:00AM - 1:00PM

Students will participate in a cutting edge CTF with challenges of increasing difficulty. The event was designed and will be led by our own Cyber Competition Team Signal-9. **Space limited to 24 students with no online option.**

ALPHA Observatory + SFOTC (Mission Control)

9:00AM - 10:00AM | 10:00AM - 1:00PM

Students will tour the observatory then engage in activities such as observe the sun and visible planets. Students learn how to analyze captured observatory data to identify meteors and identify constellations.

Space limited to 24 students.

Flight Simulator Challenge

9:00AM - 1:00PM

Students will be tasked with creating and piloting a flight simulation using the provided tools. **Space limited to 20 students.**

Rocketry (Assembly and Launch)

9:00AM - 1:00PM

Students will be challenged to construct their own rocket and lately launch it high into the sky. **Space limited to 20 students.**

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Big AI Challenge (build and demonstrate)

9:00AM - 1:00PM

Students will be tasked with building and demonstrating an AI-driven project using the provided resources, all within a set time limit. **Space limited to 20 students.**

Math Escape Room Challenge

9:00AM - 1:00PM

Students will dive into a thrilling escape room adventure, solving math puzzles and challenges to unlock the way out. **Space limited to 20 students.**

Lunch

1:00PM - 2:00PM

Larger Rocket and Balloon Launch Demos

2:00PM - 3:00PM

Witness the excitement as we launch larger rockets and balloons in this thrilling demonstration! Perfect for students eager to see science in action, this event showcases impressive launches and explores the principles behind them

Closing Ceremony and Departure

2:00PM - 3:00PM

Join us as we wrap up an incredible day of STEM challenges and demonstrations. Reflect on your achievements, celebrate your successes, and say farewell to new friends and mentors. We look forward to seeing the amazing things you'll accomplish in the future. Thank you for being a part of this unforgettable experience!

REGISTER TODAY!

CAPITOL Technology University

As Washington D.C.'s premier private, non-profit, STEM University, Capitol Technology University produces graduates that are highly sought-after by America's most technologically advanced government agencies and their private sector partners.

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