



Announcing the **fourth** annual

Embedded Capture the Flag Competition



Sponsored by The MITRE Corporation in Partnership with Riverside Research

Sign up now for 2019 Spring Semester

Competition opens January 16 and closes April 12. Award Ceremony at MITRE on April 18*

How is this different from other Capture the Flag (CTF) competitions?

The eCTF is unique in two major ways. First, the focus is on securing embedded systems, which present an entirely new set of challenges and security issues that are not currently covered by traditional "online" CTFs. Second, this event balances offense and defense by including a significant secure-design phase in addition to an attack phase. This competition will help you develop practical skills that can be applied securing critical systems, such as medical devices, smart grids, IoT devices, and mobile devices.

How does it work?

This event puts competitors through the exercise of trying to create a secure system and then learning from their mistakes. The main target is a real physical embedded device, opening the challenge to include physical/proximal access attacks.

- Secure Design**  Teams design a secure system that meets all the challenge requirements.
- Handoff**  MITRE verifies that each submitted system has met all functional requirements.
MITRE posts designs for all teams to evaluate during the attack phase.
- Attack**  Teams perform security evaluations of opposing teams' systems and request provisioned chips for vulnerable systems. Points are awarded for flags retrieved from successful attacks.

What is this year's challenge?

Teams will design a secure video game console on the Digilent Arty Z7. The system must attempt to protect the intellectual property of game designers, prevent users from loading their own software, and allow verified users to install and play games that they have purchased.

*Award ceremony date subject to change based on availability of participants.

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Embedded systems skills help build your knowledge, career, and reputation

Who can participate?

Anyone! Students at all academic levels are welcome to participate. Team sizes are unlimited (although a minimum of 4 students is recommended). Sponsorship of a faculty member is preferred.

Can I earn college credits?

Work with your professor(s) / faculty advisor to determine how to earn credit at your institution. Most students can earn college credit hours. Remember that this is a significant time commitment, typically commensurate with the credit hours you may receive.

What is provided by MITRE to help?

MITRE provides teams with a reference implementation, embedded hardware, and technical guidance throughout the competition.

Are there awards?

Winning teams receive a cash prize, publicity from MITRE, and typically earn accolades from their university as well. Students have used their participation in eCTF to build resumes, present at conferences, and open the door to valuable internship and career opportunities, including engineering positions at MITRE.

How do I sign up?

For details contact your faculty advisor _____ or ectf@mitre.org.

For more information, visit <http://mitrecyberacademy.org/competitions/embedded/>

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