eCTF

EMBEDDED CAPTURE THE FLAG

JOIN YOUR SCHOOL'S TEAM FOR THE 2027 eCTF

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 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 to securing critical systems such as medical devices, smart grids, IoT devices, and mobile devices. The 2025 competition will run from mid-January through mid-April, with an award ceremony in late April.

Who can participate?

Anyone! Students at all academic levels are welcome to participate. Team sizes are unlimited (although a minimum of 3 students is recommended). Sponsorship of a faculty member is required.

Can I earn course credits?

Most students can earn credits. Work with your professor(s)/team advisor to determine if/how you can earn credit at your institution. Remember that this is a significant time commitment, typically commensurate with the course credit you may receive. An example syllabus is available from the eCTF organizers upon request.

What is provided by MITRE to help?

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

Are there awards?

Winning teams receive prizes, 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 and competition sponsors.

Design Phase

Teams design and implement systems that meets security and functionality requirements

Handoff

Organizers test each design for functionality

Attack Phase

Teams analyze and attack each other's designs for points

https://ectf.mitre.org