



*A student at INL's  
Cyber Summer Camp.*

## K-12 Cyber Security Education Program

Idaho National Laboratory (INL) is widely recognized for its expertise in securing critical digital systems and improving infrastructure resiliency from adept and malicious cyber actors to disruptive weather-related disasters. At INL, people with various backgrounds help protect the nation's industrial control systems from failure.

### **CYBER-INFORMED ENGINEERING FRAMEWORK**

To address cyber risks, INL and the Department of Energy have identified a framework called cyber-informed engineering that prioritizes cybersecurity as a key factor in the engineering and design of these critical systems. Cyber-informed engineering helps engineers to consider and mitigate

the inherent risks of digital technology coming from failure, human error, disruption or compromise at the earliest possible design stages.

### **CYBERSECURITY FOR NUCLEAR FACILITIES**

Nuclear power plants make use of digital technology throughout their facilities — from instrumentation and control systems to physical protection, safeguards and engineering. To defend nuclear infrastructure from attacks on digital systems, INL combines its extensive nuclear operational experience and cybersecurity expertise to support existing nuclear energy operators and advanced nuclear technology vendors.

### **INDUSTRIAL CONTROL SYSTEMS CYBERSECURITY TRAINING**

The Department of Homeland Security's Cybersecurity Infrastructure Security Agency has collaborated with INL to provide comprehensive and innovative training courses aimed at securing industrial control systems.

### **INL'S K-12 PROGRAMS IN CYBERSECURITY EDUCATION**

#### *Cybercore summer camp*

Each summer INL hosts introductory and advanced cybersecurity camps for middle schools and high school students at sites around the state. Developed by INL cybersecurity professionals, students experience how to defend against cyberattacks while learning about cryptography, programming, and physical control systems.





INL's K-12 STEM education team member presenting in cybersecurity awareness month.



Students learn about digital mapping in the CAVE.

### Cybersecurity Awareness Month

In October INL's K-12 STEM team visits different schools in eastern Idaho to share the knowledge about importance of cybersecurity, how to protect yourself and your community from cyberattacks, how to get started in this field and possible career opportunities.

### Cyber Patriot

INL provides grants and mentorship to teams participating in the National Youth Cyber Defense Competition, a core part of Cyber Patriot program.

### High school internships

Our High School Internship Program offers an unparalleled opportunity for high school students driven by passion and curiosity to dive into the world of cutting-edge research and innovation. Throughout the six-week paid summer internship, students help

solve real-world challenges under the mentorship of top INL researchers and professionals.

### Sparkle in Cyberspace

This program introduces elementary and middle school students to the basics of cybersecurity, helping them gain early knowledge in this important field.

### JOB OPPORTUNITIES AT INL:

We are seeking talented professionals in various fields, including engineering, computer science, power grid specialization and human factors expertise within cybersecurity.

### Common job profiles:

- Cybersecurity researcher and analyst
- Nuclear cybersecurity engineer
- Critical infrastructure analyst
- Junior cybersecurity analyst
- Critical infrastructure tool developer

**Educational and skill requirements:** candidates should possess a degree in computer science, information technology, cybersecurity, nuclear engineering, electrical engineering or data science.

Battelle Energy Alliance manages INL for the U.S. Department of Energy's Office of Nuclear Energy.

### FOR MORE INFORMATION

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