TEACHING SCIENCE AND TECHNOLOGY, INC.

Space Domain Cybersecurity

Engineering Cyber Resilience into Space Missions

Course Description

Cybersecurity defines space mission resilience. A weakness in the enterprise, development pipeline, system design, or operations can compromise an entire mission long before launch. The Space Domain Cybersecurity (SDC) course equips you to identify and evaluate cyber risks across the full space enterprise before they become mission-ending events.

Built around the Space Domain Cybersecurity (SpaDoCs) Framework, the course examines cybersecurity across enterprise, mission, system, and DevSecOps layers while applying core principles of confidentiality, integrity, and availability.

Through realistic tabletop exercises, you'll analyze threats, assess vulnerabilities, and evaluate trade-offs between security, performance, cost, and operational complexity. The emphasis is on cybersecurity as an engineering and mission assurance discipline—not simply a compliance exercise.

SDC is designed for cybersecurity professionals entering the space domain and space professionals integrating cybersecurity into mission planning, design, and operations. You'll gain practical tools to strengthen mission resilience across the entire space enterprise.

Course Objectives

At the end of this course you should be able to…

✦**Space Domain Cybersecurity Fundamentals**
- Describe the big picture challenges of cybersecurity in the space domain as organized in the SPAce Domain Cybersecurity (SpaDoCs) Framework
- List and define key objectives of cybersecurity (CIA Triad), the first principles of secure systems, along with cybersecurity enablers
- Identify cyber threats to and vulnerabilities of space missions and systems
- Characterize the various layers of the space domain and the elements that comprise them

✦**Cybersecurity Principles**
- Apply cybersecurity first principles to specific space domain threats and vulnerabilities
- Associate specific cybersecurity enablers with various space domain threat or vulnerability scenarios

✦**Cybersecurity Threats and Vulnerabilities**
- Analyze threats and vulnerabilities and their attack vectors for various space domain scenarios at each layer

✦**Cybersecurity Assessment Plans**
- Formulate inputs and issues to a cybersecurity assessment plan for a given space domain scenario

In partnership with… SPACE ISAC

Course Topics

✦**Course Intro**
- Course Objectives
- Framework Overview

✦**Cybersecurity Fundamentals**
- Space Domain Layers
- Enterprise Layer
- Mission Layer
- System Layer
- DevOps Layer

✦**Threats and Vulnerabilities**
- First Principles of cybersecurity applied in the space domain
- Enablers of security and mission success in space enterprises

Who Should Attend

Cybersecurity professionals who want to understand the space domain, or space professionals who want to understand the cyber domain.

Testimonials

"The best part of the course was…the deep dive into each of the layers of the space domain and how they relate to cybersecurity."

"I think the instructors are engaging and very easy to listen to."

"[The instructor] answered my detailed questions on cyber quite well."