

AEROSPACE

SHORT COURSES

Cybersecurity Fundamentals for Aerospace Design, Engineering and Operations (AERO0611)

Instructors: Jeremy Jackson and Amy Billinger

Course Description

This course will introduce students to cyber threats and vulnerabilities that U.S. aerospace businesses face daily. Tactics used by nation-state adversaries and individual hackers to attack U.S. networks and systems will be examined, with an emphasis on new and emerging techniques. This course builds designer, engineer, and operator risk understanding by demonstrating how they should identify vulnerabilities and consequences and correlate them with threats to identify risk. Prevention techniques and countermeasures will also be identified to support individuals as they return to their respective companies, so that they may work towards implementing cybersecurity measures that better protect their company systems and networks.

Course Highlights

- Impact of cyber threats on aerospace design, engineering, and operations
- Merging cyber threats with vulnerabilities and consequences to identify cyber risks to designs and systems
- Cyber incident prevention, response, and recovery and incorporation into business and engineering practices

Who Should Attend?

This course is intended for designers, developers, engineers, systems integrators, and project/program managers involved in the design and development of avionics and aerospace components and systems, as well as those involved in the support of those functions or aviation operations.

Learning Objectives

- Identify general vulnerabilities that pose a risk to networks, systems, programs, and machines.
- Conduct more effective risk assessments and recommend strategies for managing cyber risks.
- Offer general recommendations that will strengthen the security of networks, systems, programs, and machines.
- Identify new and emerging threats that companies should plan to secure its systems against in the near future.

Course Outline

Day 1

- Lecture 1 Introduction
- Lecture 2 Cyber Attack Case Studies
- Lecture 3 Case Studies Specific to Transportation
- Lecture 4 Cyber Threat Mechanisms
- Lecture 5 Cyber Threats – Actors/Intrusion Sets
- Activity 1 Red-Teaming Group Activity and Discussion

Day 2

- Lecture 6 Changing Cyber Threat Landscape
- Lecture 7 Cyber Vulnerabilities
- Activity 2 Vulnerability Assessment Group Activity & Discussion
- Lecture 8 Assessing consequences
- Lecture 9 Risk Assessment for Aviation, Design, Engineering, and Operation
- Activity 3 Risk Assessment Group Activity and Discussion

Day 3

- Lecture 10 Regulatory Issues
- Lecture 11 Prevention Techniques (Prevention & Detection)
- Lecture 12 Response & Recovery
- Activity 4 Response and Recovery Group Activity and Discussion
- Lecture 13 Organizational Challenges – Internal & External
- Lecture 14 Incorporating Cybersecurity into Business & Engineering Practices

Classroom hours / CEUs

21.00 classroom hours

2.1 CEUs

Certificate Track

This course is not part of a certificate track.

Course Fees

Early registration course fee: \$1,995 if you register and pay by the early registration deadline (45 days out).

Regular registration course fee: \$2,095 if you register and pay after the early registration deadline.

U.S. Federal Employee Discount

This course is available to U.S. federal employees at 10% off the registration fee. To receive the federal employee discount, you must enter the code FGVT116 during the checkout process. Please note that you must validate your eligibility to receive this discount by entering your U.S. government email address (ending in .gov or .mil) when creating your online registration profile. This discount is available for both the early registration and regular registration fees.

Instructor Bios

Amy Billinger is a co-founder of Anneal Initiative, Inc. Prior to starting Anneal Initiative, she was the Lead Analyst for Cyber Operations at the Kansas Intelligence Fusion Center (KIFC). She drove the cyber intelligence processes that merged critical infrastructure vulnerability information with classified threat intelligence, allowing KIFC analysts to provide early warning and produce risk assessments beneficial to both the intelligence community and a range of industries. Amy also serves in the Kansas Air National Guard where she works as an Operations Intelligence Specialist. Her military background includes providing intelligence support for deployed forces and serving as the analytic lead for a team of roughly three dozen Army and Air National Guard analysts producing cyber, terrorism, and biological threat intelligence. Prior to working at the KIFC, Amy was a foreign language analyst for the Department of Defense. Amy has a Bachelor of Arts in History and Military Studies from Washburn University.

Jeremy Jackson is the founder of Anneal Initiative, Inc. an intelligence analysis and strategic planning business. Previously, Jeremy was the Director of the Kansas Intelligence Fusion Center (KIFC). Jeremy led the KIFC's unique integration of cyber and biological threat experts from industry, government, and academia into intelligence analysis operation. Prior to directing the KIFC, Jeremy designed and developed homeland security capabilities for Kansas, including the Kansas Intelligence Fusion Center. Jeremy also serves in the Kansas Air National Guard at the 184th Intelligence Wing Headquarters. As an Intelligence Officer in the Guard, he performed strategic analysis and planning regarding intelligence and cyber capabilities for the Kansas Adjutant General and Kansas Joint Forces Headquarters. His military intelligence experience also includes development of cyber threat and vulnerability assessments, as well as supervising analysts providing intelligence support to deployed forces. He previously served in the Army Reserve and the Army National Guard. Jeremy has nearly 10 years of private sector engineering and project management experience, focusing primarily on electronic building systems and industrial controls for the power industry. Jeremy earned a Bachelor of Science in Mechanical Engineering from Kansas State University and a Master of Arts in Intelligence Studies from American Military University.

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Your company can realize substantial savings by bringing an aerospace short course to your workplace. On-site delivery is ideal for organizations that need to train 10 or more employees on a specific topic. For more information on on-site course delivery, or to request a cost proposal, please contact us at 913-897-8782, or email us at ProfessionalPrograms@ku.edu.

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