COURSE SYLLABUS

Zero Trust & Modern Access Certificate Program

A four-course live path through cryptography essentials, identity and phishing-resistant MFA, zero trust architecture implementation, and the FedRAMP transition from Rev5 to 20x and CR26.

> Group classes (Live Online) and onsite training are available for this course. For more information, email onsite@graduateschool.edu or visit: https://www.graduateschool.edu/certificates/zero-trust-and-modern-access-certificate-program



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Course Outline

This package includes these courses

- Cryptography Essentials Course (12 Hours)
- ICAM and MFA Fundamentals Course (6 Hours)
- Zero Trust Architecture Implementation (12 Hours)
- FedRAMP Modernization: Transitioning from Rev5 to 20x & CR26 (12 Hours)

Cryptography Essentials Course

Learn how encryption, hashing, and digital signatures work and where each fits, so you can make sound cryptography decisions.

- Explain the four core goals cryptography provides: confidentiality, integrity, authenticity, and non-repudiation.
- Distinguish symmetric encryption from asymmetric encryption and explain when each is used.
- Explain how a public and private key pair solves the key distribution problem.
- Use a hash value to verify that a file or message has not been altered.
- Explain why passwords are hashed rather than encrypted.
- Describe how a digital signature is created and verified, and why it provides non-repudiation.
- Explain what public key infrastructure solves and how a certificate authority establishes trust.
- Interpret the fields in a digital certificate and explain what certificate revocation means.
- Explain how TLS protects data in transit and why HTTPS depends on it.
- Distinguish encryption at rest from encryption in transit and identify where each applies.
- Describe, at a conceptual level, how a virtual private network protects traffic.
- Identify weak or outdated cryptographic algorithms and explain why they remain a risk.
- Recognize how poor key management can defeat otherwise strong encryption.

ICAM and MFA Fundamentals Course

A foundational pass through Identity, Credential, and Access Management for federal staff, running the full chain from identity through proofing, authentication and MFA, authorization, and federation to the access decision.

- Identity, account, credential, and authenticator distinguished, and how authentication, authorization, and access relate
- Identity proofing and the joiner, mover, and leaver lifecycle
- The assurance-level model — IAL, AAL, and FAL — applied to real access situations
- Common MFA methods compared, and why stronger methods carry greater assurance
- Attacks aimed at MFA: phishing, MFA fatigue, credential theft, and adversary-in-the-middle
- Least privilege, need-to-know, RBAC, and ABAC in authorization decisions
- Federation and single sign-on, including identity providers, relying parties, and assertions
- A full access transaction worked end to end

Zero Trust Architecture Implementation

An intermediate course taking zero trust from principle to a staged, governed implementation plan.

- Zero trust principles and the federal drivers behind them
- Current-state maturity assessment using the CISA ZT Maturity Model
- Identity, credential and access management modernization
- Trust enforcement across devices, networks and workloads
- Application, data and policy enforcement architecture
- Visibility, analytics and automation for threat response
- A staged zero trust implementation roadmap

FedRAMP Modernization: Transitioning from Rev5 to 20x & CR26

Get clear on what FedRAMP's shift to 20x and the Consolidated Rules for 2026 actually change, and leave with a transition roadmap. Timed to the January 1, 2027 CR26 deadline.

- Explain CR26 and the FedRAMP modernization timeline running through 2028
- Set Rev5 authorization against 20x certification
- Describe the new certification classes and what changes about boundaries
- Modernize packages around Security Decision Records and structured data
- Put Key Security Indicators and automated validation to work
- Draft a Rev5-to-20x transition roadmap