COURSE SYLLABUS

ICAM and MFA Fundamentals Course

A full day live on the identity layer: identity, proofing, authentication and MFA, authorization, federation, and the access decision itself — with phishing-resistant MFA at the center.

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/courses/icam-and-mfa-fundamentals



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Course Outline

Module 1

- Identity Is the New Perimeter: ICAM Foundations
- What ICAM means
- Identity versus account versus credential versus authenticator
- Human and non-person identities
- Why ICAM is foundational
- ICAM's role in Zero Trust

Module 2

- Who Are You? Identity Proofing and the Identity Lifecycle
- Proofing and enrollment
- Establishing confidence in a claimed identity
- Identity Assurance Levels
- Provisioning
- Joiner, mover, and leaver
- Authoritative sources
- Disabling, revocation, and termination

Module 3

- Prove It: Authentication and MFA Essentials
- Identification versus authentication
- The three factor types
- Single-factor versus MFA
- Multi-factor authenticators versus multiple authenticators
- Passwords, OTPs, cryptographic authenticators, and biometrics
- AAL1, AAL2, and AAL3
- Phishing-resistant authentication

Module 4

- Beyond the Password: MFA Technologies and Threats
- Authenticator apps and one-time passcodes
- Push-based authentication
- Smart cards and cryptographic credentials
- PIV credentials in federal environments
- Biometrics
- Phishing, MFA fatigue, credential theft, and adversary-in-the-middle attacks

Module 5

- Who Gets Access? Authorization and Access Control
- Authentication versus authorization
- Subjects, objects, permissions, and entitlements
- Least privilege and need-to-know
- RBAC and ABAC
- Privileged access; access reviews and recertification
- Separation of duties

Module 6

- Trust Across Systems: Federation and Single Sign-On
- What federation means
- Identity provider and relying party
- Credentials versus assertions
- Single sign-on
- Federated authentication
- Federation Assurance Levels
- Introductory SAML, OAuth, and OpenID Connect
- Benefits and risks of centralized and federated identity

Module 7

- Putting ICAM to Work: From Identity to Access Decision
- A typical access transaction from sign-in to resource access
- Applying IAL, AAL, and FAL
- MFA selection based on risk
- Zero Trust access decisions
- Logging and monitoring identity activity
- Common ICAM implementation mistakes
- Scenario exercises