



Cyber Security and Technology

Data Encryption Mastery: Deep Dive into Cybers

- Location: London
- Date: From 4/8/2025 To 8/8/2025
- Investment: \$5950 (Excluding VAT)



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ACADEMY

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Course Introduction

This 5-day intensive course provides a unique and engaging approach to cybersecurity education, combining theoretical knowledge with hands-on exercises and interactive simulations. Participants will gain a deep understanding of the evolving threat landscape, develop essential cybersecurity skills, and learn to apply these skills in real-world scenarios.

Training Method

- Pre-assessment
- Live group instruction
- Use of real-world examples, case studies and exercises
- Interactive participation and discussion
- Power point presentation, LCD and flip chart
- Group activities and tests
- Each participant receives a binder containing a copy of the presentation
- slides and handouts
- Post-assessment






Course Objectives

Upon successful completion of this course, participants will be able to:

- Understand the fundamental principles of cryptography and data encryption.
- Differentiate between symmetric and asymmetric encryption algorithms.
- Implement and manage various encryption techniques, including file encryption, disk encryption, and database encryption.
- Understand and apply cryptographic hashing functions.
- Secure communication channels using encryption protocols (SSL/TLS, IPsec).
- Implement key management best practices.
- Analyze the strengths and weaknesses of different encryption methods.
- Understand the legal and regulatory aspects of data encryption.
- Apply encryption to protect data in transit and at rest.
- Troubleshoot common encryption-related issues.

Who Should Attend?

This course is ideal for cybersecurity professionals, IT administrators, developers, and anyone responsible for protecting sensitive data. This includes:

- Security Analysts
 - System Administrators
 - Network Engineers
 - Database Administrators
 - Software Developers
 - Compliance Officers
 - IT Managers
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Course Outline

Day 1: Foundations of Cryptography

- Introduction to Cryptography: History, Concepts, and Terminology
- Symmetric Encryption: Algorithms (AES, DES), Modes of Operation
- Asymmetric Encryption: Algorithms (RSA, ECC), Key Generation and Exchange
- Hash Functions: MD5, SHA Family, Applications (Digital Signatures)
- Hands-on Lab: Implementing Symmetric and Asymmetric Encryption using Cryptographic Libraries

Day 2: Data at Rest Encryption

- Disk Encryption: Full Disk Encryption (BitLocker, VeraCrypt), File-Level Encryption
- Database Encryption: Transparent Data Encryption (TDE), Column-Level Encryption
- Cloud Storage Encryption: Encryption at Rest in Cloud Environments (AWS, Azure, GCP)
- Hands-on Lab: Encrypting Hard Drives, Databases, and Cloud Storage

Day 3: Data in Transit Encryption

- Secure Communication Protocols: SSL/TLS, IPsec
- VPNs and Secure Remote Access
- Email Encryption: PGP, S/MIME
- Hands-on Lab: Configuring SSL/TLS, Setting up a VPN, Encrypting Email Communication

Course Outline

Day 4: Key Management and Best Practices

- Key Generation, Storage, and Rotation
- Key Exchange Protocols (Diffie-Hellman)
- Hardware Security Modules (HSMs)
- Public Key Infrastructure (PKI)
- Hands-on Lab: Implementing Key Management using OpenSSL, Setting up a Certificate Authority

Day 5: Advanced Topics and Real-World Applications

- Homomorphic Encryption: Performing Computations on Encrypted Data
- Quantum Cryptography and Post-Quantum Cryptography
- Data Encryption in IoT Devices
- Legal and Regulatory Aspects of Data Encryption (GDPR, HIPAA)
- Hands-on Project: Designing and Implementing an Encryption Solution for a Specific Use Case

Registration & Payment

Complete & Mail to London Royal Academy or email
registration@londonra.com



Registration Form

- Full Name (Mr / Ms / Dr / Eng)
- Position
- Telephone / Mobile
- Personal E-Mail
- Official E-Mail
- Company Name
- Address
- City / Country

Payment Options

- Please invoice me
- Please invoice my company





Terms & Conditions

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Cancellation and Refund Policy

Delegates have 14 days from the date of booking to cancel and receive a full refund or transfer to another date free of charge. If less than 14 days' notice is given, then we will be unable to refund or cancel the booking unless on medical grounds. For more details about the Cancellation and Refund policy, please visit

www.londonra.com/terms-and-conditions/

Registration & Payment

Please complete the registration form on the course page & return it to us indicating your preferred mode of payment. For further information, please get in touch with us

Course Materials


The course material, prepared by the LRA, will be digital and delivered to candidates by email

Certificates

Accredited Certificate of Completion will be issued to those who attend & successfully complete the programme.

Travel and Transport

We are committed to picking up and dropping off the participants from the airport to the hotel and back.



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THANK YOU

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