Primary Course
AIT 660: Cyber Security Fundamentals

Primary textbook

Additional Readings
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<th>Topic</th>
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| **Access Control**                             | Access Control Overview  
Identification and Authentication  
Access Control Techniques  
Authorization Mechanisms | [CISSP] – Chapter 13                                                       |
| **Basic Networking**                           | OSI Model  
TCP/IP Model  
Secure Network Components  
Network Topologies  
Virtual Private Networks  
Network Attacks and Countermeasures | [CISSP] – Chapters 11 & 12                                                |
| **Attacks & Monitoring**                       | Access Control Attacks  
Threat Modeling  
Logging and Monitoring | [CISSP] – Chapters 9 & 21                                                  |
| **Cryptography**                               | Cryptographic Basics  
Symmetric Cryptography  
Asymmetric Cryptography  
Hash Functions  
Public Key Infrastructure | [CISSP] – Chapters 6 & 7                                                   |
| **Security Models**                            | Principles of Security Models  
State Machine Model  
Bell-LaPadula and Biba Models  
Chinese Wall Model | [CISSP] – Chapter 8                                                       |
| **Selected Research Topics in Communications and Network Security** | Botnet Mitigation  
Attack Impact Metrics  
Moving Target Defense  
Advanced Persistent Threats | [A1], [A2], [A3], [A4]                                                    |