**CSC-353: Information Security**

**General Information**

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| **Course Number** | CSC-353 |
| **Credit Hours** | 3 (Theory Credit Hour = 3, Lab Credit Hours = 0) |
| **Prerequisite** | As per course catalog (Recommended: Computer Communications Networks) |
| **Course Coordinator** | Not Specified |

**Course Objectives**

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| In this course students learn basics of information security, in both management aspect and technical aspect. Students understand various types of security incidents and attacks, and learn methods to prevent, detect and react incidents and attacks. Students will also learn basics of application of cryptography which are one of the key technology to implement security functions. This course provides students with a high-level understanding of how information security functions in an organization and principles to deal with security issues. |

**Catalog Description**

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| CSC-353 |

**Course Content**

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| **Session No.** | **Week** | Topics | **Suggested Readings**  [Whitman and Mattord] |
| **01-03** | **Week 01** | Introduction to Information Security  History  Terminology  Security Model  Security SDLC | Chapter 1 |
| **04-06** | **Week 02** | Introduction to Information Security  Components of Information System  Information Security Characteristics  Security Professionals and Organizations | Chapter 1 |
| **07-12** | **Week 03-04** | The Need for Security  Business Needs  Threats  Legal, Ethical, and Professional Issues in Information Security  Laws and Ethics | Chapter 2 |
| **13-15** | **Week 05** | Policy vs Law  Preview of some Information Security Laws and relevant agencies | Chapter 3 |
| **16-18** | **Week 06** | Risk Management  Identification  Assessment  Control  Decisions | Chapter 3 |
| **19-21** | **Week 07** | Planning for Security  Planning And governance  Education, Training and Awareness  Continuity | Chapter 4 |
| **22-24** | **Week 08** | Security Technology: Firewalls and VPNs  Need, architecture and dealing with a Firewall | Chapter 5 |
| MIDTERM | | | |
| **25-27** | **Week 10** | Security Technology: Firewalls and VPNs  Need, architecture and dealing with VPNs | Chapter 6 |
| **28-30** | **Week 11** | Security Technology: Intrusion Detection and Prevention Systems, and Other Security Tools  Study of IDPS | Chapter 6 |
| **31-33** | **Week 12** | Security Technology: Intrusion Detection and Prevention Systems, and Other Security Tools  Study of Scanning and Analyses Tools | Chapter 7 |
| **34-36** | **Week 13-14** | Cryptography  Ciphers  Cryptography  Hash and MAC  DH and RSA  Attacks on Ciphers  Cryptographic Protocols  SSL  IPSec | Stallings]  Chapter 7  Chapter 8 |
| **37-39** | **Week 15** | Information Security Maintenance  Maintenance Models  Digital Forensics | Chapter 12 |
| **40-42** | **Week 16** | Presentation & Course Revision |  |

**Text Book**

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| 1. Michael E. Whitman and Herbert J. Mattord, Principles of Information Security, Thomson/Course Technology, ISBN 0-619-21625-5, Fourth Edition, 2012 [Whitman and Mattord] |

**Reference Material**

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| 1. William Stallings, “Cryptography and Network Security”, 5th edition, Pearson Prentice Hall. |

**Course Learning Outcomes**

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| 1 | Define and explain the requirements of information security, also describe the components and characteristics of information security. Also explain and classify the various types of attacks, and how they’re spread and executed. |
| 2 | Describe security planning, governance, and risk management; also identify the suitable security technologies and tools and describe the ethical, legal and professional concerns in the domain of information security. |
| 3 | Evaluate and implement cryptographic mechanisms and other information security protection methods available to protect information systems. |

**CLO-SO Map**

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|  | **SO IDs** | | | | | | | | | | |  |
| **CLO ID** | **GA1** | **GA2** | **GA3** | **GA4** | **GA5** | **GA6** | **GA7** | **GA8** | **GA9** | **GA10** | **GA11** | **GA12** |
| CLO 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| CLO 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| CLO 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |

**Approvals**

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| Prepared By |  |
| Approved By | Not Specified |
| Last Update | 10/01/2025 |