

Branch Name:	CYBER SECURITY
Program Code:	ET207
Course Title:	Overview of Cyber Security
Course Code:	2ET2070102T
Pre-requisite Course:	Able to attain a thorough knowledge in the area of Privacy and Storage security and related Issues

Course Objectives: After successful completion of the course, student will be able to

1. Understand the core fundamentals of system security
2. Explain the various cyber threats and vulnerabilities.
3. Demonstrate various ethical hacking and system hacking
4. Implement and Manage the security essentials in IT Sector

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								Total (Marks)
					Theory (Marks)				Practical (Marks)				
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3	3	-	-	3	24	60	16	40	-	-	-	-	100

Course Contents:

Unit No	Topics	Total Hours	Weight age (%)
1	Introduction to Cyber Security, Threats and Vulnerabilities Cyber security objectives, Cyber security roles, Differences between Information Security & Cyber security, Cyber security Principles Confidentiality, integrity, & availability Authentication & non- repudiation Cyber Threats-Cyber Activism-Cybercrime-Cyber Espionage-Cyber terrorism-Cyber Warfare-Cyber World Vulnerabilities-Cyber Operations-Cyber Weaponry-Society's Critical Structures as Targets.	11	25
2	Demonstrate various ethical hacking and system hacking Introduction-Importance of Security-Elements of Security-Phase of an Attack- Hacker Attacks – Hacktivism –Ethical Hackers –Computer Crimes and Implication. Introduction–Cracking password– Password cracking websites–Password guessing Algorithms–Password cracking Tools Countermeasure–Escalating Privileges-Executing Applications –Key loggers and spywares.	11	25
3	Security Management Information security essentials for IT Managers- Security Management System - Policy Driven System Management- IT Security - Online Identity and User Management System - Intrusion and Detection and Prevention System.	11	25
4	Privacy And Storage Security Privacy on the Internet - Privacy Enhancing Technologies - Personal privacy Policies - Detection of Conflicts in security policies- privacy and security in environment monitoring systems. Storage Area Network Security - Storage Area Network Security Devices - Risk management - Physical Security Essentials.	11	25

Text Books:

1. NASSCOM: Security Analyst Student Hand Book Dec 2015.
2. Information Security Management Principles Updated Edition by David Alexander, Amanda Finch, and David Sutton, Published by BCS, June 2013.

Reference Books:

1. Donaldson, S., Siegel, S., Williams, C.K., Aslam, A., Enterprise Cyber security-How to Build a Successful Cyber defense Program against Advanced Threats, A-press.
2. Hacking the Hacker, Roger Grimes, Wiley.
3. John R. Vacca, Computer and Information Security Handbook, Second Edition, Elsevier 2013.
4. Richard E.Smith, Elementary Information Security, Second Edition, Jones and Bartlett Learning, 2016

Course Learning Outcomes (CLO):

Course Outcomes	Description	Bloom's Taxonomy Level
COL1	Apply cyber security architecture principles.	Understanding (2) Applying (3)
COL2	Describe risk management processes and practices.	Applying (3)
COL3	Appraise cyber security incidents to apply appropriate response	Applying (3)
COL4	Distinguish system and application security threats and vulnerabilities. Identify security tools and hardening techniques	Applying (3)

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes(PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	H	M	M		M											
CLO2	H	M			M							L				
CLO3	H	M	M		M											
CLO4	M	M	M		M							L				
CLO5	M	M										L				

H: High, M: Medium, L: Low