



Sylhet Polytechnic Institute, Sylhet

Department of Computer Technology

Curriculum: Diploma in Engineering (4-Years)

Semester Plan

Semester: 7th (Group: A₁ + B₁)

Subject Name: Cyber Security & Ethics

Subject Code: 66675

Teacher: Shantonu Roy

Designation: Jr. Instructor (Computer)

Marks Distribution				
Full Marks – 100				
TC (20)	TF (30)	PC (25)	PF (25)	
Mid Term : 10%	Theory Final : 30%	Job/Experiment : 12.5%	Job/Experiment : 15%	
Class Test : 03%		Home works : 2.5%		Job report : 05%
Quiz : 02%		Job reports : 2.5%		Viva voce : 05%
Presentation &		Viva voce : 2.5%		
Assignment : 2.5%		Behavior : 01%		
Attendance* : 2.5%		Attendance* : 04%		

OBJECTIVES

- To develop knowledge and skill on Cyber Security and Ethics.
- To develop knowledge and skill to create and apply of cyber security.

SHORT DESCRIPTION

Basics of Cyber Security, Implementation of Hardware based and software-based security, Data and evidence recovery, Hacking, Cyber-crimes, Cyber Ethics, IT Laws;

Week	Class Day	DETAIL DESCRIPTION	Lesson Time	Delivery Method	Teaching Aids	
01	01	Introduction and Brain Storming	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.	
		1. Understand Cyber Security 1.1 Define is Cyber Security. 1.2 Classify Cyber Security. 1.3 Describe the necessity and role of cyber security.	30 min			
		Class Feedback.	05 min			
	02		Practical: 1. Apply password to a computer system and various files such as Microsoft Word, Microsoft Excel etc.		Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
			Introduction and Brain Storming	15 min		
			Demonstration	30 min		
			Practice	75 min		
Feedback			15 min			
02	03	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.	
		1.4 Distinguish between Information security and Cyber security. 1.5 Describe and explain why information and cyber security are important to business and to society. 1.6 Explain Security, Identity, Authentication, Confidentiality, Integrity, Availability, Threat, Vulnerability, Risk and hazard;	30 min			
		Class Feedback.	05 min			
		Practical: 2. Practice to recover an e-mail forgotten password.				
	04		Introduction and Brain Storming	15 min	Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
			Demonstration	30 min		
			Practice	75 min		
			Feedback	15 min		
	03	05	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
2. Understand Data and Evidence Recovery 2.1 Define file recovery. Classify different procedures for file recovery. 2.2 Define data recovery and Forensic Tool Kit (FTK). 2.3 Describe various types of computer forensics tools. 2.4 Discuss various Personal Identifiable Information 2.5 Discuss various types of E-mail threats.			30 min			
Class Feedback.			05 min			
Practical: 3. Apply various security steps in e-mail.						
Introduction and Brain Storming			15 min			
06			Demonstration	30 min	Demonstration/ Simulation/	PC, Software, Duster, Marker, White

Week	Class Day	DETAIL DESCRIPTION	Lesson Time	Delivery Method	Teaching Aids	
		Practice	75 min	Video	Board, M.M.P, Speaker etc.	
		Feedback	15 min	Presentation/		
04	07	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.	
		CLASS TEST - 1	30 min			
		Class Feedback.	05 min			
	08	Practical: 4. Apply various security steps in social media such as Facebook login.			Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
		Introduction and Brain Storming	15 min			
		Demonstration	30 min			
		Practice	75 min			
		Feedback	15 min			
	05	09	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
			3. Understand Cyber Crimes			
3.1 Define Cyber Crimes.						
3.2 Discuss various types of Cyber-crimes cyber-bullying, cyber extortion, Phishing, Identity Thefts, Scamming, Cyber laundering (Money Laundering 2.0), DDoS Attack etc.			30 min			
		3.3 Define Malware. Describe various types of Malware.				
		Class Feedback.	05 min			
10		Practical: 5. Install antivirus software and scan computer system with the software.			Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
		Introduction and Brain Storming	15 min			
		Demonstration	30 min			
		Practice	75 min			
	Feedback	15 min				
06	11	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.	
		3.4 Describes various types of Cyber Crimes such as Hacking, Cracking, Virus Attacks, Pornography, Software piracy.				
		3.5 Define Intellectual property.				
		3.6 Describe Tracking, IP Tracking, E-mail recovery, Encryption and Decryption methods.	30 min			
		3.7 Describe password cracking.				
		Class Feedback.	05 min			
	12	Practical: 6. Install firewall to a computer system and prevent the computer system from intruder.			Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White
		Introduction and Brain Storming	15 min			
		Demonstration	30 min			

Week	Class Day	DETAIL DESCRIPTION	Lesson Time	Delivery Method	Teaching Aids
		Practice	75 min		Board, M.M.P, Speaker etc.
		Feedback	15 min		
07	13	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
		4. Understand Hacking 4.1 Define Hacking with its classification. 4.2 Describe the reasons and justification of hacking. 4.3 Describe various Hacking techniques such as Vulnerability scanning, Brute force Attack, Dictionary attack, Password cracking, Packet sniffer, Spoofing attack (Phishing), Programmed threats, Social Engineering etc. 4.4 Define Hacker. 4.5 Describe types of hacker such as script kiddie, white hat (Ethical hacker), black hat (crackers), gray hat, green hat, Red hat, blue hat etc.	30 min		
		Class Feedback.	05 min		
	14	Practical: 7. Use a hashing program to verify the integrity of data with HashCalc program.		Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
		Introduction and Brain Storming	15 min		
Demonstration		30 min			
Practice		75 min			
		Feedback	15 min		
08		MID TERM EXAM			
09		[According to BTEB Academic Calendar]			
10	19	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
		5. Understand the basics of security 5.1 Define firewalls and Attack prevention. 5.2 Describe types of firewalls. 5.3 Make a comparison among the types of firewalls. 5.4 Describe basic online security. 5.5 Describe the motives of hackers. 5.6 Describe firewalls as the process of Attack Prevention.	30 min		
		Class Feedback.	05 min		
	20	Practical: 8. Practice to sending Confidential Information over Email utilizing WinZip.		Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
		Introduction and Brain Storming	15 min		
Demonstration		30 min			
Practice		75 min			
		Feedback	15 min		

Week	Class Day	DETAIL DESCRIPTION	Lesson Time	Delivery Method	Teaching Aids	
11	21	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.	
		CLASS TEST - 2	30 min			
		Class Feedback.	05 min			
	22	Practical: 6. Install firewall to a computer system and prevent the computer system from intruder. ®			Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
		Introduction and Brain Storming	15 min			
		Demonstration	30 min			
		Practice	75 min			
		Feedback	15 min			
	12	23	Previous Class Feedback, Introduction and Brain Storming.	10 min	Lecture or Slide Presentation	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
6. Understand Cyber Ethics			30 min			
6.1 Define Cyber Ethics.						
6.2 Define Ethical hacking.						
6.3 Describe various aspects of Ethical hacking.						
6.4 Describe various laws of Bangladesh about Cyber Security.						
6.5 Describe various laws of Bangladesh about Cyber Crimes.						
Class Feedback.		05 min				
24		Practical: 7. Use a hashing program to verify the integrity of data with HashCalc program. ®			Demonstration/ Simulation/ Video Presentation/	PC, Software, Duster, Marker, White Board, M.M.P, Speaker etc.
	Introduction and Brain Storming	15 min				
	Demonstration	30 min				
	Practice	75 min				
	Feedback	15 min				
13	25	Revision				
	26	Revision				