

Kadi Sarva Vishwavidyalaya
 Faculty of Engineering and Technology
First Year Master of Engineering (Computer Engineering)
 In Effect from Academic Year 2017-18

Subject Code: MECE-206-N-A	Subject Title: CYBER SECURITY
-----------------------------------	--------------------------------------

Teaching scheme				Total Credit	Evaluation Scheme					Total Marks
L	T	P	Total		Theory		Mid Sem Exam	CIA	Pract.	
Hrs	Hrs	Hrs	Hrs		Hrs	Marks	Marks	Marks	Marks	
04	00	02	06	05	03	70	30	20	30	150

Learning Objectives:

This course will provide students with a practical and theoretical knowledge of cyber crimes and cyber security. By the end of the course, students should be able to:

- Identify the malicious activities taking place in their system/network.
- Protect themselves from the cyber attacks.
- understand ethics behind hacking and vulnerability discovery.
- Gain the knowledge of cyber laws and find their importance.

Outline of the Course:

Sr. No.	Title of the Unit	Minimum Hours
1	Introduction to Cybercrime	08
2	Tools and methods used in Cybercrime	14
3	Phishin Attacks	08
4	Identity Theft	08
5	Browser Security	08
6	Working of and Prevention from Spam	08
7	Ethical Hacking	06
8	Cyber security legacy perspectives	04

Total hours (Theory): 64

Total hours (Lab): 32

Total hours: 96

Kadi Sarva Vishwavidyalaya
Faculty of Engineering and Technology
First Year Master of Engineering (Computer Engineering)
In Effect from Academic Year 2017-18

Detailed Syllabus:

Sr. No.	Topic	Lecture Hours	Weightage
1	Understanding Cybercrime: Definition and Categories of Cyber crimes, Hacking, Attack vectors, Cyberspace and Criminal Behavior, Clarification of Terms, Traditional Problems Associated with Computer Crime, Introduction to Incident Response, Digital Forensics, Realms of the Cyber world	08	13
2	Tools and Methods used in Cybercrime : Password Cracking, Keyloggers, Spywares, DoS and DDoS attacks, SQL Injection, Buffer Overflow	14	21
3	Phishing : Methods of Phishing, Phishing Techniques, Spear phishing, Types of phishing scams, Phishing Toolkits and Spy Phishing, Phishing Countermeasures.	08	13
4	Identity Theft: Personally Identifiable Information, Types of identity Theft, Techniques of ID Theft, Identity Theft: Countermeasures	08	13
5	Security Dangers in Browsers : Hackers exploit Networks, Protection against browser based attacks.	08	13
6	Working of Spam :Dangers of spam, Hiding identity and identification, Working of Anti-spam Software	08	13
7	Introduction to Ethical Disclosure: Ethics of Ethical Hacking, Ethical Hacking and the legal system, Proper and Ethical Disclosure	06	09
8	Cyber Security Legal Perspective : Indian Context, The Indian IT Act 2000, weakness of ITA2000.	04	05
	Total	64	100

Instructional Method and Pedagogy:

- At the start of course, the course delivery pattern, prerequisite of the subject will Be discussed.
- Lectures will be conducted with the aid of multi-media projector, black board, OHP etc.
- Attendance is compulsory in lecture and laboratory which carries 10 marks in overall evaluation.
- One internal exam will be conducted as a part of internal theory evaluation.
- Assignments based on the course content will be given to the students for each unit and will be evaluated at regular interval evaluation.
- Surprise tests/Quizzes/Seminar/tutorial will be conducted having a share of five marks in the overall internal evaluation.
- The course includes a laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures.
- Experiments shall be performed in the laboratory related to course contents.

Kadi Sarva Vishwavidyalaya
Faculty of Engineering and Technology
First Year Master of Engineering (Computer Engineering)
In Effect from Academic Year 2017-18

Learning Outcome:

At the end of the course the students will be able to do following:

- Trace Back the Intrusion/Hacking.
- Responding to the Cyber Crime
- Preserving and Creating controlled environment for Digital evidence.

Reference Books:

1. "Cyber Security", by Nina Godbole and Sunit Belapure, Wiley Publication
2. "Gray Hat Hacking: The Ethical Hackers' Handbook" Shon Harris, Allen Harper, Chris Eagle and Jonathan Ness, TMH Edition
3. "How Personal and Internet Security Work," , Preston Galla, Que Publications
4. "Computer Security Concepts, Issues and Implementation", Alfred Basta and Wolf Halton, Cengage Learning
5. "Anti-Hacker Tool Kit" (Indian Edition) by Mike Shema, publication Mc Graw Hill.

List of experiments:

Sr. No.	Name of Practical
1	TCP scanning using NMAP
2	Port scanning using NMAP
3	TCP/UDP connectivity using NetCat
4	Network vulnerability using OpenVAS
5	Web application testing using DVWA
6	Manual SQL injection using DVWA
7	Automated SQL injection with SqlMap
8	Case study of a Cyber crime.