

M.Sc Computer Science with Specialization in Cyber Security

Semester wise Break-up of Courses for 4 Semesters

Semester 1		
Type of the Course	Title of the Course	Credits
University Core 1	Digital Access Community Empowerment	3
University Core 2	Digital Experience Laboratory	4
University Core 3	Design Thinking and Innovation	3
Program Core 1	Mathematical Foundations for Cyber Security	4
Program Core 2	Cyber Security and Digital Forensics	4
Program Core 3	Data Structures and Algorithms	4
Program Core 4	Computer Architecture	3
Program Core 5	Programming with Python	3
Program Core Lab 1	Cyber Security and Forensics Lab	1
Program Core Lab 2	Programming Lab	1
Total Credits		30

Semester 2		
Type of the Course	Title of the Course	Credits
Program Core 6	Modern Cryptography	4
Program Core 7	Cyber Analytics	3
Program Core 8	Operating Systems	3
Program Core 9	Computer Networks and Security	4
Program Elective 1		3
Program Core Lab 3	Cryptography and Network Security Lab	1
Program Core Lab 4	Cyber Analytics Lab	1
Mini Project 1		1
Total Credits		20

Electives for Semester 2

1. Augmented and Virtual Reality
2. Biometrics
3. Block Chains and Applications
4. Cognitive Computing
5. Information Retrieval
6. Malware Analysis

Semester 2 Internship

Type of the Course	Title of the Course	Credits
Internship	Summer Internship/Team Project	6
Total Credits		6

Semester 3		
Type of the Course	Title of the Course	Credits
Program Core 6	Database Security	4
Program Core 7	Artificial Intelligence for Cyber Security	4
Program Core 8	Ethical Hacking and Defensive Techniques	3
Program Elective 2		3
Program Elective 3		3
Program Core Lab 5	Ethical Hacking and Penetration Testing Lab	1
Program Core Lab 6	Security Auditing Lab	1
Mini Project 2		1
Total Credits		20

Electives for Semester 3

1. Applied Cryptography
2. Cloud and Edge Computing
3. Mobile Application Security
4. Natural Language Processing
5. Object-Oriented Analysis and Design
6. Quantum Computing & Cryptography
7. Secure Software Engineering
8. Security Auditing, Forensics and Risk Management
9. Security in Digital Transformation
10. Web Technologies

Semester 4		
Type of the Course	Title of the Course	Credits
Internship	Internship/Project	24
Total Credits		24