



AMITY UNIVERSITY
— R A J A S T H A N —

**AMITY INSTITUTE OF INFORMATION TECHNOLOGY
(AIIT)**

Master of Science (Cyber Security)

Programme Code: MCS

Duration – 2 Years Full Time

(Programme Structure)

Choice Based Credit System (CBCS)

2019

AMITY UNIVERSITY RAJASTHAN

Program Learning Outcomes – PLO

- Demonstrating advanced knowledge in the field of cyber and information security in general and the following particular topics: computer and network security, security management, incident response, computational and digital forensics, biometrics, privacy, and security of critical infrastructure. The candidate possesses special insight and can demonstrate expertise in information security technology, digital forensics, or security management, depending on the chosen program track.
 - Apply advanced knowledge of the current state-of-the-art in the field of cyber and information security.
 - To apply knowledge in new areas within cyber and information security, in particular cloud computer security, security on the Internet of Things (IoT) and Cyber Forensic applications.
 - Utilize knowledge of scientific methodology needed to plan and carry out research in the field of cyber and information security under supervision.
-

Credits Summary

M.Sc. (Cyber Security) (02 Years/ 04 Semesters)						
Semester	Core Course (CC)	Domain Electives (DE)	Value Added Course (VAC)	Open Electives (OE)	Non-Teaching Credit Courses (NTCC)	Total
I	11	07	04	-	01	23
II	17	07	04	03	-	31
III	19	07	04	03	01	34
IV	06	-	-	-	19	25
Total	53	21	12	6	21	113

CC = Core Course

DE = Domain Elective

OE = Open Elective

VA = Value Added Course

NTCC = Non - Teaching Credit Courses (NTCC)



AMITY UNIVERSITY

RAJASTHAN

AMITY INSTITUTE OF INFORMATION TECHNOLOGY (AIIT)

Program Name: M.Sc. – (Cyber Security)

FIRST SEMESTER

S. No.	Course Title	Lecture	Tutorial	Practical	Total
		(L)	(T)	(P)	Credits
CORE COURSE (CC)					
MCS101	Mathematical Foundation to Computer Science	2	1	-	3
MCS102	Network Security and Cryptography	2	1	-	3
MCS103	Cyber Security -I	2	1	-	3
MCS122	Network Security and Cryptography Lab	-	-	2	1
MCS123	Cyber Security - I Lab	-	-	2	1
DOMAIN ELECTIVES (DE)					
Elective-I (Without Lab)	Select any ONE				
MCS131	Information Security Risk Assessment and Assurance	2	1	-	3
MCS132	Internet Technology				
MCS133	Digital Hardware Modeling				
Elective-II (WithLab)	Select any ONE				
MCS134	Internet of Things	2	1	-	3
MCS135	Secure Protocol Design				
MCS136	Probability and Statistical Structure				
MCS144	Internet of Things LAB				
MCS145	Secure Protocol Design Lab	-	-	2	1
MCS146	Probability and Statistical Structure Lab				
Non Teaching Credit Course (NTCC)					
MCS151	Report on Workshop / Social Work	-	-	-	1
VALUE ADDED COURSES (VAC)					
BCS111	Communication Skills	1	-	-	1
BSS111	Behavioural Science-I (Self Development and Interpersonal Skills)	1	-	-	1
FLT111	Foreign Language	2	-	-	2
FLG111	French				
FLS111	German				
FLC111	Spanish Chinese				
	TOTAL				23



AMITY UNIVERSITY

RAJASTHAN

AMITY INSTITUTE OF INFORMATION TECHNOLOGY (AIIT)

Program Name: M.Sc. – (Cyber Security)

SECOND SEMESTER

S. No.	Course Title	Lecture	Tutorial	Practical	Total
		(L)	(T)	(P)	Credits
CORE COURSE (CC)					
MCS201	Cyber Forensic	2	1	-	3
MCS202	Cyber Security - II	2	1	-	3
MCS203	Intrusion Detection Systems	2	1	-	3
MCS222	Cyber Security - II Lab	-	-	2	1
MCS223	Intrusion Detection Systems Lab	-	-	2	1
MCS250	Minor Project	-	-	-	6
DOMAIN ELECTIVES (DE)					
Elective-I (Without Lab)	Select any ONE				
MCS231	Cyber Laws & Security Policies	2	1	-	3
MCS232	Social Media Security				
MCS233	Biometric Security				
Elective-II (With Lab)	Select any ONE				
MCS234	MATLAB	2	1	-	3
MCS235	Wireless Networks				
MCS244	MATLAB Lab	-	-	2	1
MCS245	Wireless Networks Lab				
OPEN ELECTIVES (OE)					
	Open Elective	2	1	-	3
VALUE ADDED COURSES (VAC)					
BCS211	Communication Skills	1	-	-	1
BSS211	Behavioural Science (Behavioural Communication and Relationship Management)	1	-	-	1
FLT211	Foreign Language	2	-	-	2
FLG211	French				
FLS211	German				
FLC211	Spanish				
	Chinese				
	TOTAL				31



AMITY UNIVERSITY

RAJASTHAN

AMITY INSTITUTE OF INFORMATION TECHNOLOGY (AIIT)

Program Name: M.Sc. – (Cyber Security)

THIRD SEMESTER

S. No.	Course Title	Lecture	Tutorial	Practical	Total Credits
		(L)	(T)	(P)	
CORE COURSE (CC)					
MCS301	Database and Application Security	2	1	-	3
MCS302	Secure Software Engineering	2	1	-	3
MCS303	Ethical hacking and Digital Forensic Tools	2	1	-	3
MCS323	Ethical hacking and Digital Forensic Tools Lab	-	-	2	1
MCS350	Minor Project	-	-	-	6
MCS352	Summer Internship Project	-	-	-	3
DOMAIN ELECTIVES (DE)					
Elective-I (Without Lab)	Select any ONE				
MCS331	Artificial Intelligence and Neural Network	2	1	-	3
MCS332	Human Computer Interaction				
MCS333	Design and Analysis of Algorithms				
Elective-II (With Lab)	Select any ONE				
MCS334	Principles of Virtualization	2	1	-	3
MCS335	Python				
MCS344	Principles of Virtualization Lab	-	-	2	1
MCS345	Python Lab				
Non Teaching Credit Course (NTCC)					
MCS351	Report on Paper Presentation in Conference	-	-	-	1
OPEN ELECTIVES (OE)					
	Open Elective	2	1	-	3
VALUE ADDED COURSES (VAC)					
BCS311	Communication Skills	1	-	-	1
BSS311	Behavioural Science (Leading Through Teams)	1	-	-	1
FLT311	Foreign Language	2	-	-	2
FLG311	French				
FLS311	German				
FLC311	Spanish				
	Chinese				
	TOTAL				34



AMITY UNIVERSITY

RAJASTHAN

AMITY INSTITUTE OF INFORMATION TECHNOLOGY (AIIT)

Program Name: M.Sc. – (Cyber Security)

FOURTH SEMESTER

S. No.	Course Title	Lecture	Tutorial	Practical	Total
		(L)	(T)	(P)	Credits
CORE COURSE (CC)					
MCS401	Security Threats & Vulnerabilities	2	1	-	3
MCS402	Information & Network Security	2	1	-	3
Elective	Select any ONE				
MCS460	Internship	-	-	-	19
MCS461	Project Work				
	TOTAL				25

Total Credits (23+31+34+25) = 113