MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
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CBCS – MAKAUT UG degree (Hons) 140 Credit FRAMEWORK (Revised)

Subject Type	Semester I	Semester II	Semester III	Semester IV	Semester V	Semester VI
CC	C1, C2	C3, C4	C5,C6, C7	C8, C9, C10	C11, C12	C13, C14
DSE					DSE1, DSE2	DSE3, DSE4
GE	GE1	GE2	GE3	GE4		
AECC	AECC 1	AECC 2				
SEC			SEC 1	SEC 2		
	4 (20)	5 (20)	4 (26)	5(26)	4 (24)	4 (24)

B.Sc in Cyber Security

Program Outcomes or Graduate Attributes of B.Sc Cyber Security Program under MAKAUT :

Graduates will be able to demonstrate the following program outcomes:

PO1- Cyber Security Knowledge: Apply the knowledge of computer systems, networking,data systems and cyber security specializations to the solution of complex cyber security problems.

PO2- Design/Development of Solutions: Identify, formulate, review and research design solutions for complex cyber security problems and design security components or processes to meet the specified needs with appropriate consideration for the public and private data security and the cultural, societal and environmental considerations.

PO3- Cyber Security Professional and Society: Create,select and apply techniques, resources and modern cyber security tools and techniques to assess societal,health,safety,legal and cultural issues and the consequent responsibilities relevant to the professional cyber security service

PO4- Individual and team work: Apply ethical principles and commit to professional ethics and responsibilities and norms of the cyber security practice as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.

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PO5- Communication: Communicate effectively on complex cyber security activities with the cyber security &b IT community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO6- Lifelong Learning: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadcast context of technological change.

Program Outcomes (PO) Mapping

PO #	Program Outcome	Mapped courses
1	Cyber Security Knowledge	CYS101, CYS102, CYS201, CYS202, CYS301, CYS302, CYS402, CYS602
2	Design/Development of Solutions	CYS301, CYS265, CYS302`, CYS401, CYS402, CYS403, CYS455, CYS501, CYS502, CYS543, CYS544, CYS601, CYS602, CYS643, CYS644
3	Cyber Security Professional & Society	CYS301,CYS265,CYS302,CYS303,CYS401, CYS455, CYS501, CYS502, CYS601
4	Individual and Team Work	CYS 164,CYS301,CYS354,CYS543, CYS544, CYS602, CYS643, CYS644
5	Communication	CYS164,CYS354,CYS543,CYS544,CYS602,CYS643,CYS644
6	Life-Long Learning	CYS301,CYS302,CYS303,CYS401,CYS403,CYS455,CYS501,CYS502,CYS601

*GE Courses are not in the above mapped list. Based on the choice of the learner that would necessarily be part of PO6 and the relevant PO's

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Curriculum Structure
1st Semester

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline	Online	Blended	
CC 1	Fundamental of Computing – using C Language	CYS (T) 101	4	0	0	6	✓			As per MAKAUT Notification
		CYS 191	0	2	0					
CC 2	Mathematics and Statistics	CYS (T) 102	4	0	0	6	✓			
		CYS 192	0	2	0					
GE 1	Students will have to choose from the GE Basket					6			✓	
AECC 1	English Communication	CYS 164	2	0	0	2	✓			
Semester Credits						**20**				

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2nd Semester

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline	Online	Blended	
CC 3	Computer Architecture & Object Oriented Concepts	CYS (T) 201	4	0	0	6	✓			As per MAKAUT Notification
		CYS 291	0	2	0					
CC 4	Data Structures & Algorithms	CYS (T) 202	4	0	0	6	✓			
		CYS 292	0	2	0					
GE 2	Students will have to choose from the GE Basket					6			✓	
AECC 2	Environmental Science	CYS 265	2	0	0	2	✓			
Semester Credits						**20**				

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3rd Semester

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline#	Online	Blended	
CC 5	Ethical Hacking and Systems Defence	CYS (T) 301	4	0	0	6	✓			As per MAKAUT Notification
		CYS 391	0	2	0					
CC 6	Cyber Systems & Cyber Threat and Modelling	CYS (T) 302	4	0	0	6	✓			
		CYS 392	0	2	0					
CC 7	Vulnerability Analysis, Penetration Testing, and Incident Handling	CYS (T) 303	4	0	0	6	✓			
		CYS 393	0	2	0					
GE 3	Students will have to choose from the GE Basket					6			✓	
SEC 1	Operating System and Linux	CYS 354	0	2	0	2	✓			
Semester Credits						**26**				

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4thSemester

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline#	Online	Blended	
CC 8	Cryptography and Information Security	CYS (T) 401	4	0	0	6	✓			As per MAKAUT Notification
		CYS 491	0	2	0					
CC 9	Software Engineering & Software Design with UML	CYS (T) 402	4	0	0	6	✓			
		CYS 492	0	2	0					
CC 10	Advanced Computer Network & Security	CYS (T) 403	4	0	0	6	✓			
		CYS 493	0	2	0					
GE 4	Students will have to choose from the GE Basket					6			✓	
SEC 2	Database Management	CYS 455	0	2	0	2	✓			
Semester Credits						**26**				

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5th Semester

Subject Type	Course Name	Credit Points	Credit Distribution			Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial	Offline	Online	Blended	
CC 11 CYS 501	Cyber Forensics	6	4	2	0	✓			As per MAKAUT notification
CC 12 CYS 502	Malware Analysis	6	4	2	0	✓			
DSE 1	Elective 1	6	1	0	5			✓	
DSE 2	Elective 2	6	1	0	5			✓	
Semester Credits		**24**							

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6th Semester

Subject Type	Course Name	Credit Points	Credit Distribution			Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial	Offline	Online	Blended	
CC 13 **CYS 601**	Artificial Intelligence	6	4	2	0	✓			
CC 14 **CYS 602**	Digital Commerce	6	4	2	0	✓			
DSE 3	Capstone Project	6	1	0	5			✓	
DSE 4	Dissertation & Viva Voce	6	1	0	5			✓	As per MAKAUT notification
Semester Credits		**24**							
Total Credits		**140**							