

PERIYAR MANIAMMAI INSTITUTE OF SCIENCE & TECHNOLOGY
FACULTY OF COMPUTING SCIENCES AND APPLICATIONS
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. Computer Science (Cyber Security)
CURRICULUM - REGULATIONS 2024

Category of courses and credit requirements for the B.Sc. Computer Science (Cyber Security) as per the new guidelines of UGC are outlined below:

Sl. No.	Category of Courses	Credits	
		3 Years	4 Years
1.	Major (Core)	60	80
2.	Minor Stream	24	32
3.	Multidisciplinary	09	09
4.	Ability Enhancement Courses	08	08
5.	Skill Enhancement Courses	09	09
6.	Value Added Courses	06 - 08	06 - 08
7.	Summer Internship	02 - 04	02 - 04
8.	Research Project / Dissertation	-	12
Total		120	160

SEMESTER I

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24TA101	பொதுத்தமிழ் (General Tamil)	3	0	0	3
	U24TA102	அடிப்படைத்தமிழ் (Foundational Tamil)				
2	U24EN102	English for Communication - I	3	0	0	3
3	U24MA101	Matrices and Differential Calculus	3	1	0	4
4	U24CO101	Information Technology Essentials	3	1	0	4
5	U24PH103	Physical Science	3	0	0	3
6	U24EM101	Coding Techniques	3	0	0	3
Practical						
7	U24EM102	Coding Techniques Laboratory	0	0	2	1
8	U24EM103	Speech Communication Laboratory	0	0	2	1
Total			18	2	4	22

SEMESTER II

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24TA151	அறிவியல்தமிழ் (Scientific Tamil)	3	0	0	3
	U24TA152	வளர்தமிழ் (Beginners Tamil)				
2	U24EN152	English for Communication - II	3	0	0	3
3	U24MA152	Vector Calculus	3	1	0	4
4	U24CO151	Scripting Paradigms	3	1	0	4
5	U24EM151	Programming in Practice	3	0	0	3
6	U24VA002	Universal Human Values	2	1	0	3
Practical						
7	U24CO152	Scripting Paradigms Laboratory	0	0	2	1
8	U24EM152	Programming in Practice Laboratory	0	0	2	1
Total			17	3	4	22

SEMESTER III

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24TA201	கணிணித்தமிழ் (Computer Tamil)	3	0	0	3
2	U24EN201	English for Communication - III	3	0	0	3
3	U24MA201	Multivariate Calculus and Linear Algebra	3	1	0	4
4	U24CU201	Data Structures and Algorithms	3	0	0	3
5	U24CU202	Cyber Ethics, Law & Policy	3	0	0	3
6	U24CU203	Database Management Systems	3	0	0	3
7	U24VA001	Environmental Studies	2	0	0	2
Practical						
8	U24CU204	Data Structures and Algorithms Laboratory	0	0	2	1
9	U24CU205	Database Management Systems Laboratory	0	0	2	1
Total Credits			20	01	04	23

SEMESTER IV

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24TA251	தொழில்நுட்பத்தமிழ் (Technology Tamil)	3	0	0	3
2	U24EN251	English for Communication - IV	3	0	0	3
3	U24CU251	Computer Networks	3	1	0	4
4	U24CU252	Operating Systems	3	0	0	3
5	U24CU253	Cyber Crime Investigation and Digital Forensics	3	0	0	3
6	U24CU751	Ancient Indian Innovations in Computer Technology (Open Elective - I)	3	0	0	3
Practical						
7	U24CU254	Statistical Tools and R Programming Laboratory	2	0	2	3
8	U24CU255	Digital Forensics Laboratory	0	0	2	1
9	U24EM256	Internship	0	0	0	2
Audit Course						
10	U24AUXXX	Audit Course - I	--	--	--	--
Total Credits			23	01	04	25

SEMESTER V

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24CU301	Immersive Technologies	3	0	0	3
2	U24CU302	Ethical Hacking	3	1	0	4
3	U24CU303	Foundations of Artificial Intelligence	3	0	0	3
4	U24CU304	Cryptography and Network Security	3	0	0	3
5	U24CU9XX	Programme Elective - I	3	0	0	3
6	U24CU8XX	Online Course	3	0	0	3
7	U24EM301	Community Engagement and Social Responsibility	1	0	2	2
Practical						
8	U24CU305	Immersive Technologies Laboratory	0	0	2	1
9	U24CU306	Ethical Hacking Laboratory	0	0	2	1
Audit Course						
10	U24AUXXX	Audit Course - II	--	--	--	--
Total Credits			19	1	6	23

SEMESTER VI

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24CU351	Intrusion Detection and Prevention System	3	0	0	3
2	U24CU352	Social Networks and Security	3	0	0	3
3	U24CU353	Cloud Security	3	0	0	3
4	U24CU354	Penetration Testing	3	1	0	4
5	U24CU9XX	Programme Elective - II	3	0	0	3
6	U24CU7XX	Open Elective - II	3	0	0	3
Practical						
7	U24CU355	Social Networks and Security Laboratory	0	0	2	1
8	U24CU356	Penetration Testing Laboratory	0	0	2	1
9	U24CU357	Capstone Project	0	0	8	4
Total Credits			18	01	12	25

SEMESTER VII

B.Sc. (Honours) Computer Science (Cyber Security)

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24CU401	Cyber Physical Systems	3	0	2	4
2	U24CU402	Blockchain Technology	3	1	0	4
3	U24CU403	Neural Network	3	0	2	4
4	U24CU404	Mobile Applications Development	3	0	2	4
5	U24CU405	Big Data Analytics	3	0	2	4
Total Credits			15	1	8	20

SEMESTER VIII**B.Sc. (Honours) Computer Science (Cyber Security)**

Sl.No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24CU451	Generative AI Models	3	0	2	4
2	U24CU452	Applied Deep Learning	3	0	2	4
Practical						
3	U24CU453	Project / Dissertation	0	0	24	12
Total Credits			6	0	28	20

SEMESTER VII

B.Sc. (Honours with Research) Computer Science (Cyber Security)

Sl.No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24CU401	Cyber Physical Systems	3	0	2	4
2	U24CU402	Blockchain Technology	3	1	0	4
3	U24CU403	Neural Network	3	0	2	4
4	U24CU404	IPR and Research Methodology	3	1	0	4
Research Project						
5	U24CU405	Applicative Research	0	0	8	4
Total Credits			12	2	12	20

SEMESTER VIII**B.Sc. (Honours with Research) Computer Science (Cyber Security)**

Sl.No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CU451	Research / Dissertation (with SCI Publication)	0	0	40	20
Total Credits			0	0	40	20

Actual Credit allotments as per the guidelines of UGC / TANSCHÉ for the B.Sc. Computer Science (Cyber Security) programme are given below:

Sl. No.	Category of Courses	Credits		
		3 Years	4 Years (Honours)	4 Years (Honours with Research)
1.	Major (Core)	60	80	72
2.	Minor Stream	26	34	34
3.	Multidisciplinary	09	9	9
4.	Ability Enhancement Courses	24	24	24
5.	Skill Enhancement Courses	09	9	9
6.	Value Added Courses (Common for all UG)	08	8	8
7.	Summer Internship	04	4	4
8.	Research Project / Dissertation	--	12	20
Total		140	180	180

Semester wise Credit distribution (in all categories of courses)

B.Sc. Computer Science (Cyber Security) (3 Years)

Sl. No.	Category of Courses	Credits	I	II	III	IV	V	VI
1.	Major (Core)	60	4	5	11	7	14	19
2.	Minor Stream	26	4	4	4	4	7	3
3.	Multidisciplinary	09	3	-	-	3	-	3
4.	Ability Enhancement Courses	24	6	6	6	6	-	-
5.	Skill Enhancement Courses	09	5	4	-	-	-	-
6.	Value Added Courses	08	-	3	2	3	-	-
7.	Summer Internship	04	-	-	-	2	2	-
8.	Research Project / Dissertation	0	-	-	-	-		-
		140	22	22	23	25	23	25

Semester wise Credit distribution (in all categories of courses)

B.Sc. (Honours) Computer Science (Cyber Security) - 4 Years

Sl. No.	Category of Courses	Credits	I	II	III	IV	V	VI	VII	VIII
1.	Major (Core)	80	4	5	11	7	14	19	12	8
2.	Minor Stream	34	4	4	4	4	7	3	8	-
3.	Multidisciplinary	09	3	-	-	3	-	3	-	-
4.	Ability Enhancement Courses	24	6	6	6	6	-	-	-	-
5.	Skill Enhancement Courses	09	5	4	-	-	-	-	-	-
6.	Value Added Courses	08	-	3	2	3	-	-	-	-
7.	Summer Internship	04	-	-	-	2	2	-	-	-
8.	Research Project / Dissertation	12	-	-	-	-	-	-	-	12
		180	22	22	23	25	23	25	20	20

Semester wise Credit distribution (in all categories of courses)

B.Sc. (Honours with Research) Computer Science (Cyber Security) - 4 Years

Sl. No.	Category of Courses	Credits	I	II	III	IV	V	VI	VII	VIII
1.	Major (Core)	72	4	5	11	7	14	19	12	-
2.	Minor Stream	34	4	4	4	4	7	3	8	-
3.	Multidisciplinary	09	3	-	-	3	-	3	-	-
4.	Ability Enhancement Courses	24	6	6	6	6	-	-	-	-
5.	Skill Enhancement Courses	09	5	4	-	-	-	-	-	-
6.	Value Added Courses	08	-	3	2	3	-	-	-	-
7.	Summer Internship	04	-	-	-	2	2	-	-	
8.	Research Project / Dissertation	20	-	-	-	-	-	-	-	20
		180	22	22	23	25	23	25	20	20

The number of credits (totaling to 184) in each semester is summarized as follows:

Course	I	II	III	IV	V	VI	VII	VIII
B.Sc. Computer Science (Cyber Security)	22	22	23	25	23	25	20	20

Suggested List of Courses for Programme Elective – I

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CU901	Computer Graphics	3	0	0	3
2	U24CU902	Digital Image Processing	3	0	0	3
3	U24CU903	Web Mining & Recommender Systems	3	0	0	3
4	U24CU904	Internet of Things	3	0	0	3
5	U24CU905	Business Intelligence	3	0	0	3

Suggested List of Courses for Programme Elective - II

Sl.No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CU951	UI / UX Design	3	0	0	3
2	U24CU952	Open Source Software for Cyber Security	3	0	0	3
3	U24CU953	Internet Security	3	0	0	3
4	U24CU954	Human Computer Interaction	3	0	0	3
5	U24CU955	Data Visualization	3	0	0	3

List of Courses under each Category

Major (Core)

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CO101	Information Technology Essentials	3	1	0	4
2	U24CO151	Scripting Paradigms	3	1	0	4
3	U24CO152	Scripting Paradigms Laboratory	0	0	2	1
4	U24CU201	Data Structures and Algorithms	3	0	0	3
5	U24CU202	Cyber Ethics, Law & Policy	3	0	0	3
6	U24CU203	Database Management Systems	3	0	0	3
7	U24CU204	Data Structures and Algorithms Laboratory	0	0	2	1
8	U24CU205	Database Management Systems Laboratory	0	0	2	1
9	U24CU252	Operating Systems	3	0	0	3
10	U24CU253	Cyber Crime Investigation and Digital Forensics	3	0	0	3
11	U24CU255	Digital Forensics Laboratory	0	0	2	1
12	U24CU751	Ancient Indian Innovations in Computer Technology (Open Elective - I)	3	0	0	3
13	U24CU302	Ethical Hacking	3	1	0	4
14	U24CU304	Cryptography and Network Security	3	0	0	3
15	U24CU9XX	Programme Elective - I	3	0	0	3
16	U24CU306	Ethical Hacking Laboratory	0	0	2	1
17	U24CU351	Intrusion Detection and Prevention System	3	0	0	3
18	U24CU352	Social Networks and Security	3	0	0	3
19	U24CU354	Penetration Testing	3	1	0	4
20	U24CU9XX	Programme Elective - II	3	0	0	3

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
21	U24CU355	Social Networks and Security Laboratory	0	0	2	1
22	U24CU356	Penetration Testing Laboratory	0	0	2	1
23	U24CU357	Capstone Project	0	0	8	4
Total			45	4	22	60
Additional Major (Core) for 4 years B.Sc. (Honours) Computer Science (Cyber Security)						
24	U24CU401	Cyber Physical Systems	3	0	2	4
25	U24CU402	Blockchain Technology	3	1	0	4
26	U24CU403	Neural Network	3	0	2	4
Total			9	1	4	12
Additional Major (Core) for 4 years B.Sc. Computer Science (Honours with Research) (Cyber Security)						
24	U24CU401	Cyber Physical Systems	3	0	2	4
25	U24CU404	IPR and Research Methodology	3	1	0	4
26	U24CU405	Applicative Research	0	0	8	4
Total			6	1	10	12

Minor (Core)

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24MA101	Matrices and Differential Calculus	3	1	0	4
2	U24MA152	Vector Calculus	3	1	0	4
3	U24MA201	Multivariate Calculus and Linear Algebra	3	1	0	4
4	U24CU251	Computer Networks	3	1	0	4
5	U24CU301	Immersive Technologies	3	0	0	3
6	U24CU303	Foundations of Artificial Intelligence	3	0	0	3
7	U24CU305	Immersive Technologies Laboratory	0	0	2	1
8	U24CU353	Cloud Security	3	0	0	3
Total			21	4	2	26
Additional Minor (Core) for 4 years B.Sc. Computer Science (Honours) (Cyber Security)						
9	U24CU404	Mobile Applications Development	3	0	2	4
10	U24CU405	Big Data Analytics	3	0	2	4
Total			6	0	4	8
Additional Minor (Core) for 4 years B.Sc. Computer Science (Honours with Research) (Cyber Security)						
9	U24CU402	Blockchain Technology	3	1	0	4
10	U24CU403	Neural Network	3	0	2	4
Total			6	1	2	8

Multidisciplinary

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24PH103	Physical Science	3	0	0	3
2	U24CU254	Statistical Tools and R Programming Laboratory	2	0	2	3
3	U24CO7XX	Open Elective - II	3	0	0	3
Total			8	0	2	9

Ability Enhancement Courses

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24TA101	பொதுத்தமிழ் (General Tamil)	3	0	0	3
	U24TA102	அடிப்படைத்தமிழ் (Foundational Tamil)				
2	U24EN101	English for Communication– I	3	0	0	3
3	U24TA151	அறிவியல்தமிழ் (Scientific Tamil)	3	0	0	3
	U24TA152	வளர்தமிழ் (Beginners Tamil)				
4	U24EN152	English for Communication–II	3	0	0	3
5	U24TA201	கணிணித்தமிழ் (Computer Tamil)	3	0	0	3
6	U24EN201	English for Communication–III	3	0	0	3
7	U24TA251	தொழில்நுட்பத்தமிழ் (Technology Tamil)	3	0	0	3
8	U24EN251	English for Communication– IV	3	0	0	3
Total			24	0	0	24

Skill Enhancement Courses

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24EM101	Coding Techniques	3	0	0	3
2	U24EM102	Coding Techniques Laboratory	0	0	2	1
3	U24EM103	Speech Communication Laboratory	0	0	2	1
4	U24EM151	Programming in Practice	3	0	0	3
5	U24EM152	Programming in Practice Laboratory	0	0	2	1
Total			6	0	6	9

Value Added Courses

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24VA001	Environmental Studies	2	0	0	2
2	U24VA002	Universal Human Values	3	0	0	3
3	U24CU8XX	Online Course	3	0	0	3
Total			8	0	0	8

Internship

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24EM256	Internship	0	0	0	2
2	U24EM301	Community Engagement and Social Responsibility	1	0	2	2
Total			1	0	2	4

Research Project / Dissertation (Honours)

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CU453	Project / Dissertation	0	0	24	12
Total			0	0	24	12

Research Project / Dissertation (Honours with Research)

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CU451	Project / Dissertation	0	0	40	20
Total			0	0	40	20

Audit Course

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24AUXXX	Audit Course - I	--	--	--	--
2	U24AUXXX	Audit Course - II	--	--	--	--
Total			--	--	--	--