

PERIYAR MANIAMMAI INSTITUTE OF SCIENCE & TECHNOLOGY
FACULTY OF COMPUTING SCIENCES AND APPLICATIONS
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. Artificial Intelligence
CURRICULUM - REGULATIONS 2024

Category of courses and credit requirements for the B.Sc. Artificial Intelligence Programme 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 Credits			18	02	04	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 Credits			17	3	4	22

SEMESTER III

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24TA201	கணிணித்தமிழ் (Computing 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	U24AI201	Data Structures and Algorithms	3	0	0	3
5	U24AI202	Sensors and Actuators	3	0	0	3
6	U24AI203	Database Management Systems	3	0	0	3
7	U24VA001	Environmental Studies	2	0	0	2
Practical						
8	U24AI204	Data Structures and Algorithms Laboratory	0	0	2	1
9	U24AI205	Database Management Systems Laboratory	0	0	2	1
10	U24AI206	Sensors and Actuators Laboratory	0	0	2	1
Total Credits			20	01	06	24

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	U24AI251	Computer Networks	3	1	0	4
4	U24AI252	Operating Systems	3	0	0	3
5	U24AI253	Fundamentals of Artificial Intelligence	3	0	0	3
6	U24AI751	Ancient Indian Innovations in Computer Technology (Open Elective - I)	3	0	0	3
Practical						
7	U24AI254	Exploratory Data Analysis	2	0	2	3
8	U24AI255	Artificial Intelligence Laboratory	0	0	2	1
9	U24EM256	Internship	0	0	0	2
Audit Course						
10	U24AUXXX	Audit Course – I	--	--	--	--
Total Credits			20	1	4	25

SEMESTER V

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24AI301	Cloud Computing and Virtualization	3	0	0	3
2	U24AI302	Machine Learning Fundamentals	3	0	0	3
3	U24AI303	Neural Networks	3	1	0	4
4	U24AI304	Human Computer Interaction	3	0	0	3
5	U24AI9XX	Programme Elective - I	3	0	0	3
6	U24AI8XX	Online Course	3	0	0	3
7	U24EM301	Community Engagement and Social Responsibility	1	0	2	2
Practical						
8	U24AI305	Neural Networks Laboratory	0	0	2	1
9	U24AI306	Machine Learning 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	U24AI351	Cyber Physical System	3	0	0	3
2	U24AI352	Computer Vision	3	0	0	3
3	U24AI353	Deep Learning	3	0	0	3
4	U24AI354	Ethics of AI	3	0	0	3
5	U24AI9XX	Programme Elective - II	3	0	0	3
6	U24AI7XX	Open Elective - II	3	0	0	3
Practical						
7	U24AI355	Computer Vision Laboratory	0	0	2	1
8	U24AI356	Deep learning Laboratory	0	0	2	1
9	U24AI357	Capstone Project	0	0	8	4
Total Credits			18	0	12	24

SEMESTER VII**B.Sc. (Honours) Artificial Intelligence**

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24AI401	Blockchain Technology	3	0	2	4
2	U24AI402	Wireless Networks	3	1	0	4
3	U24AI403	Immersive Technologies	3	0	2	4
4	U24AI404	Mobile Applications Development	3	0	2	4
5	U24AI405	Big Data Analytics	3	0	2	4
Total Credits			15	1	8	20

SEMESTER VIII**B.Sc. (Honours) Artificial Intelligence**

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24AI451	Generative AI Models	3	0	2	4
2	U24AI452	Applied Predictive Analytics	3	0	2	4
Practical						
3	U24AI453	Project / Dissertation	0	0	24	12
Total Credits			6	0	28	20

SEMESTER VII**B.Sc. (Honours with Research) Artificial Intelligence**

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24AI401	Blockchain Technology	3	0	2	4
2	U24AI402	Wireless Networks	3	1	0	4
3	U24AI403	Immersive Technologies	3	0	2	4
4	U24AI404	IPR and Research Methodology	3	1	0	4
Research Project						
5	U24AI405	Applicative Research	0	0	8	4
Total Credits			12	2	12	20

SEMESTER VIII**B.Sc. (Honours with Research) Artificial Intelligence**

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24AI451	Research / Dissertation (with SCI Publication)	0	0	40	20
Total Credits			0	0	40	20

Actual Credit allotments as per the guidelines of UGC / TANSICHE for the B.Sc. Artificial Intelligence programme are given below:

Sl. No.	Category of Courses	Credits		
		3 Years	4 Years (Honours)	4 Years (Honours with Research)
1.	Major (Core)	62	82	74
2.	Minor Stream	24	32	32
3.	Multidisciplinary	09	09	09
4.	Ability Enhancement Courses	24	24	24
5.	Skill Enhancement Courses	09	09	09
6.	Value Added Courses	08	08	08
7.	Internship	04	04	04
8.	Research Project / Dissertation	--	12	20
Total		140	180	180

Semester wise Credit distribution (in all categories of courses)

B.Sc., Artificial Intelligence - 3 Years

Sl. No.	Category of Courses	Credits	I	II	III	IV	V	VI
1.	Major (Core)	62	4	5	12	11	12	18
2.	Minor Stream	24	4	4	4	3	6	3
3.	Multidisciplinary	9	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.	Internship	04	-	-	-	2	2	-
8.	Research Project / Dissertation	-	-	-	-	-	-	-
Total		140	22	22	24	25	23	24

Semester wise Credit distribution (In all categories of courses)

B.Sc. (Honours) Artificial Intelligence - 4 Years

Sl. No.	Category of Courses	Credits	I	II	III	IV	V	VI	VII	VIII
1.	Major (Core)	82	4	5	12	11	12	18	12	8
2.	Minor Stream	32	4	4	4	3	6	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
Total		180	22	22	24	25	23	24	20	20

Semester wise Credit distribution (in all categories of courses)

B.Sc. Artificial Intelligence (Honours with Research) - 4 Years

Sl. No.	Category of Courses	Credits	I	II	III	IV	V	VI	VII	VIII
1.	Major (Core)	74	4	5	12	11	12	18	12	-
2.	Minor Stream	32	4	4	4	3	6	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.	Internship	04	-	-	-	2	2	-	-	-
8.	Research Project / Dissertation	20	-	-	-	-	-	-	-	20
		180	22	22	24	25	23	24	20	20

The number of credits in each semester is summarized as follows:

Course	I	II	III	IV	V	VI	VII	VIII
B.Sc. Artificial Intelligence	22	22	24	25	23	24	20	20

Suggested List of Courses for Programme Elective - I

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24AI901	Digital Image Processing	3	0	0	3
2	U24AI902	Industrial Internet of Things	3	0	0	3
3	U24AI903	UI / UX Design	3	0	0	3
4	U24AI904	Natural Language Processing	3	0	0	3
5	U24AI905	Prompt Engineering	3	0	0	3

Suggested List of Courses for Programme Elective - II

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24AI951	Quantum Computing	3	0	0	3
2	U24AI952	Robotics	3	0	0	3
3	U24AI953	Prescriptive Analytics	3	0	0	3
4	U24AI954	Text Analytics	3	0	0	3
5	U24AI955	Software Engineering	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.	U24AI201	Data Structures and Algorithms	3	0	0	3
5.	U24AI202	Sensors and Actuators	3	0	0	3
6.	U24AI203	Database Management Systems	3	0	0	3
7.	U24AI204	Data Structures and Algorithms Laboratory	0	0	2	1
8.	U24AI205	Database Management Systems Laboratory	0	0	2	1
9.	U24AI206	Sensors and Actuators Laboratory	0	0	2	1
10.	U24AI251	Computer Networks	3	1	0	4
11.	U24AI253	Fundamentals of Artificial Intelligence	3	0	0	3
12.	U24AI751	Ancient Indian Innovations in Computer Technology (Open Elective - I)	3	0	0	3
13.	U24AI255	Artificial Intelligence Laboratory	0	0	2	1
14.	U24AI302	Machine Learning Fundamentals	3	0	0	3
15.	U24AI303	Neural Networks	3	1	0	4
16.	U24AI9XX	Programme Elective - I	3	0	0	3
17.	U24AI305	Neural Networks Laboratory	0	0	2	1
18.	U24AI306	Machine Learning Laboratory	0	0	2	1
19.	U24AI352	Computer Vision	3	0	0	3

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
20.	U24AI353	Deep Learning	3	0	0	3
21.	U24AI354	Ethics of AI	3	0	0	3
22.	U24AI9XX	Programme Elective – II	3	0	0	3
23.	U24AI355	Computer Vision Laboratory	0	0	2	1
24.	U24AI356	Deep learning Laboratory	0	0	2	1
25.	U24AI357	Capstone Project	0	0	8	4
Total			45	6	22	62
Additional Major (Core) for 4 years B.Sc. (Honours) Artificial Intelligence						
26.	U24AI401	Blockchain Technology	3	0	2	4
27.	U24AI402	Wireless Networks	3	1	0	4
28.	U24AI403	Immersive Technologies	3	0	2	4
29.	U24AI451	Generative AI Models	3	0	2	4
30.	U24AI452	Applied Predictive Analytics	3	0	2	4
Total			15	1	8	20
Additional Major (Core) for 4 years B.Sc. (Honours with Research) Artificial Intelligence						
31.	U24AI402	Wireless Networks	3	1	0	4
32.	U24AI404	IPR and Research Methodology	3	1	0	4
33.	U24AI405	Applicative Research	0	0	8	4
Total			6	2	8	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	U24AI252	Operating Systems	3	0	0	3
5	U24AI301	Cloud Computing and Virtualization	3	0	0	3
6	U24AI304	Human Computer Interaction	3	0	0	3
7	U24AI351	Cyber Physical System	3	0	0	3
Total			21	3	0	24
Additional Minor (Core) for 4 years B.Sc. (Honours) Artificial Intelligence						
9	U24AI404	Mobile Applications Development	3	0	2	4
10	U24AI405	Big Data Analytics	3	0	2	4
Total			6	0	4	8
Additional Minor (Core) for 4 years B.Sc. (Honours with Research) Artificial Intelligence						
9	U24AI401	Block chain Technology	3	0	2	4
10	U24AI403	Immersive Technologies	3	0	2	4
Total			6	0	4	8

Multidisciplinary

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24PH103	Physical Science	3	0	0	3
2	U24AI254	Exploratory Data Analysis	2	0	2	3
3	U24AI7XX	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	கணினித்தமிழ் (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	U24AI8XX	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	U24AI453	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	U24AI451	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			--	--	--	--