

Curriculum Version 1.0
Master of Computer Applications (MCA AI& ML)
(For AY2026-27 onwards)

Credit distribution among baskets (Minimum Credits to be earned = 80)		
Sl. No.	Baskets	Credit Contribution
1	School Core	17
2	Program Core	30
3	Discipline Elective	27
	Common Electives Basket	12
	Specialized Elective Baskets*	15
4	Open Elective	6
TOTAL CREDITS		80

Specialized Elective Baskets*		
Sl.No.	Name of the Basket	Minimum Credit Requirement
1	Cyber Security	3
2	Data Analytics	3
3	Cloud Computing	3
4	Robotics	3
5	MLOps Basket	3
Total*		15

** Remaining Credits, if any, to satisfy Specialized Elective Baskets credit requirement can be taken from any Specialized Elective Basket*

Sl. No.	Course Code	Course Name	T	P	Credits
A. School Core - Minimum Credits to be earned from this basket (A+B+C) =					17
1	CSE5129	Computer Science Fundamentals (Bridge Course) #	3	0	3
2	MAT5009	Applied Statistics Using R	2	2	3
3	ENG5004	Technical Proficiency and Career Building	0	2	1
4	CSE6004	Research Paper	0	0	2
5	CSE6005	MCA Capstone Project	0	0	4
6	CSE6006	Corporateship	0	0	3
B. Foreign Languages Basket - Min. credits to be earned from this basket =					1
1	FRE1002	Communicative French	0	2	1
2	GER1002	Communicative German	0	2	1
C. Soft Skills Basket (All Courses in this basket are mandatory) - Minimum Credits =					3
1	SSK2002	Being Corporate Ready	0	2	1
2	CSE3050	Programming Skills for Employment	0	2	1
3	SSK3001	Problem Solving through Aptitude	0	2	1
D. Program Core - Minimum Credits to be earned from this basket (All Courses in this basket are mandatory) =					30
1	CSE5016	Data Mining and Predictive Modelling	3	0	3
2	CSE5002	Algorithms Design for Computer Applications	2	2	3
3	CSE5020	Natural Language Processing Techniques	3	0	3
4	CSE5038	AI Generative Models	2	2	3
5	CSE5019	Deep Learning Techniques	2	2	3
6	CSE5006	Relational Database	2	2	3
7	CSE5031	Optimization Techniques	2	2	3
8	CSE5037	Reinforcement Learning	3	0	3
9	CSE5022	Image Processing for Artificial Intelligence	2	2	3
10	CSE5050	Artificial Intelligence and Machine Learning	2	2	3
E. Discipline Electives - Minimum Credits to be earned from both Common and Specialized elective baskets (F+G) =					27
F. Common Electives Basket - Minimum Credits to be earned from this basket =					12
1	CSE5009	Web Design and Development	2	2	3
2	CSE5010	Advanced Python	0	4	2
3	CSE5011	Advanced Java Programming	0	4	2
4	CSE5012	Problem Solving Using C and C++	0	4	2
5	CSE5013	C# and .NET Framework	0	4	2
6	CSE5014	UI/UX and Design Thinking	2	2	3
7	CSE5015	Project Management for Information Technology	3	0	3
8	CSE5018	Big Data Framework	2	2	3
9	CSE5021	Virtual Reality - Interface, Application and Design	2	2	3
10	CSE5024	Advanced Software Testing	2	2	3
11	MGT5101	Digital Entrepreneurship Skills	2	0	2
12	CSE5042	Blockchain Technology and Applications	3	0	3
13	CSE5033	Introduction to Robotics	3	0	3
14	CSE5067	Advanced Data Structures and Algorithms	2	2	3
15	CSE5133	Intelligent Systems	3	0	3
16	CSE5134	Neural Computing	3	0	3
17	CSE5135	Conversational AI and Chatbots	2	2	3
18	CSE5066	Research Methodologies	3	0	3
19	CSE5140	Agentic AI Systmes	3	0	3
20	CSE5141	AI Applications in Business	3	0	3

21	CSE5004	Distributed Operating Systems	3	0	3
G. Specialized Electives Baskets - Minimum Credits to be earned from these baskets (H+I+J+K+L+M) =					15
H. Cyber Security Basket - Minimum Credits to be earned from this basket =					3
1	CSE5028	Network System Administration and Security	2	2	3
2	CSE5039	Ethical Hacking Techniques	2	2	3
3	CSE5040	Intrusion Detection System	2	2	3
4	CSE5041	Penetration Testing, Incident Response and Forensics	2	2	3
5	CSE5043	Malware Analysis	2	2	3
6	CSE5044	Vulnerability Analysis in Network Protocols	2	2	3
I. Data Analytics Basket - Minimum Credits to be earned from this basket =					3
1	CSE5045	Data Analytics Using Python	2	2	3
2	CSE5046	Data Handling and Visualization	2	2	3
3	CSE5047	Analytics for Social Media	2	2	3
4	CSE5048	Data Analytics Using R	2	2	3
5	MGT5010	Business Intelligence and Analytics	3	0	3
6	MAT5006	Time Series Analysis	2	2	3
J. Cloud Computing Basket - Minimum Credits to be earned from this basket =					3
1	CSE5052	Data Center Operations and Management	3	0	3
2	CSE5053	Cloud Infrastructure, Services and APIs	2	2	3
3	CSE5055	Cloud Security	3	0	3
4	CSE5056	Cloud Database Management System	3	0	3
5	CSE5035	Cloud Computing and Virtualization	3	0	3
6	CSE5057	Edge Computing	3	0	3
K. Robotics Basket - Minimum Credits to be earned from this basket =					3
1	CSE5095	Robotic Operating System	2	2	3
2	CSE5098	Computer Vision	2	2	3
3	CSE5096	Robotic Process Automation	2	2	3
4	CSE5097	Neural Networks and Fuzzy Logic	3	0	3
L. MLOps Basket - Minimum Credits to be earned from this basket					3
1	CSE5136	MLOps and Model Deployment	2	2	3
2	CSE5137	AI Governance and Compliance	3	0	3
3	CSE5138	Security in MLOps Systems	2	2	3
4	CSE5139	Docker and Kubernetes for AI Systems	2	2	3
Open Elective basket - Minimum Credits to be earned from this basket =					6
Any course from another 'eligible' curriculum					
Any unused Discipline Elective from his/ her 'own' curriculum					
Any stand-alone course declared as "Open Elective" by School for a specific 'eligible' degree program					
School approved NPTEL/ Swayam courses for a maximum of 3-credits					
#	For non-CS background UG students admitted to PG programs; Credits and grades obtained in a bridge course are counted for the CGPA calculation, but the credits will not be counted towards the minimum credit requirements for the completion of the program.				