Schema of Studies

for

MS in Artificial Intelligence (AI)

(Spring 2026)

➢ Distribution of Total Credit Hours (MS with Thesis)

Category of Area	Credit Hours
Core Courses	**15**
Elective Courses	**09**
General Elective (Understanding of Quran – I & II)	**2**
Thesis	**06**
Total Credit Hours	**32**

➢ Distribution of Total Credit Hours (MS with Coursework)

Category of Area	Credit Hours
Core Courses	**15**
Elective Courses	**15**
General Elective (Understanding of Quran – I & II)	**2**
Total Credit Hours	**32**

Deficiency Courses:

There is a possibility that students may have to take one or more deficiency course(s). It is usually decided after the evaluation of undergraduate degree by interview panel and doctoral committee.

Semester-wise Plan for MS (AI) with Thesis (Credit Hours: 32)

Semester I (Credit hrs.: 10)

Course Title	Credits Hours
MS Core-I	3
MS Core-II	3
Elective-I	3
General Elective-I(Understanding of Quran – I)	1(0+1)
Total	**10**

Semester II (Credit hrs.: 10)

Course Title	Credits Hours
MS Core-III	3
MS Core-IV	3
General Elective-II(Understanding of Quran – II)	1(0+1)
Elective-II	3
Total	**9**

Semester III (Credit hrs.: 9)

Course Title	Credits Hours
Thesis – I	3
MS Core-V	3
Elective-II	3
Total	**9**

Semester IV (Credit hrs.: 3)

Course Title	Credits Hours
Thesis – II*	3
Total	**3**

Registration in "MS Thesis - I" is allowed provided the student has

a. Earned at least 18 credits

b. Passed the "Research Methodology" course; AND

c. CGPA is equal to or more than 2.5.

Semester-wise Plan for MS (AI) with Coursework (Credit Hrs.: 32)

Note: All courses have 3 credits each

Semester I (Credit hrs.: _10__)

Course Title	Credits Hours
MS Core-I	3
MS Core-II	3
Elective-I	3
General Elective-I(Understanding of Quran – I)	1(0+1)
Total	**10**

Semester II (Credit hrs.: 10)

Course Title	Credits Hours
MS Core-III	3
MS Core-IV	3
General Elective-II(Understanding of Quran – I)	1(0+1)
Elective-II	3
Total	**10**

Semester III (Credit hrs.: _9)

Course Title	Credits Hours
Elective-III	3
Elective-IV	3
Elective-V or Thesis-I	3
Total	**9**

Semester IV (Credit hrs.: 3)

Course Title	Credits Hours
Elective-VI or Thesis-II	3
Total	**3**

➢ Core Courses (Credit hours 15)

Course Code	Course Title	Credit Hours	Expected Offering
CSC-551	Advanced Natural Language Processing	3	Fall / Spring
CSC-527	Theory of Programming Language	3	Fall / Spring
CSC-553	Knowledge Representation & Reasoning	3	Fall / Spring
CSC-526	Advanced Computer Vision	3	Fall/Spring
CSC-513	Research Methodology	3	Fall / Spring

➢ MS Thesis (Credit hours 06)

Course Code	Course Title	Credit Hours	Expected Offering
CSC-691	MS Thesis*	6	Fall / Spring

* Minimum duration for Thesis completion is 6 months and maximum duration is 18 months. In case of exceed the candidate will have to get approval from the Doctoral Committee and he/she will have to pay fees also.

➢ Elective Courses

CSC-521	Advanced Analysis of Algorithms	Domain Core	3	Computer Science
CSC-561	Advanced Artificial Intelligence	General Electives	3	Artificial Intelligence
CSC-658	Advanced Blockchain	General Electives	3	Net-Centric Computing
CSC-551	Advanced Computer Networks	General Electives	3	Net-Centric Computing
CSC-651	Advanced Data Communications	General Electives	3	Net-Centric Computing
CSC-631	Advanced Data Mining and Data Ware Housing	General Electives	3	Information Management
CSC-531	Advanced Database Systems	General Electives	3	Information Management
CSC-543	Advanced Distributed Computing	General Electives	3	Net-Centric Computing
SWE-606	Advanced Formal Methods	Domain Core	3	Software Engineering
CSC-528	Advanced Human Computer Interaction	General Electives	3	Human Computer Interaction
CSC-540	Advanced Network Security and Cryptography	General Electives	3	Net-Centric Computing

CSC-522	Advanced Operating Systems	Domain Core	3	Computer Science
SWE-601	Advanced Requirements Engineering	Domain Core	3	Software Engineering
SWE-581	Advanced Software Engineering	General Electives	3	Software Engineering
SWE-608	Advanced Software Project Management	Domain Electives	3	Software Engineering
SWE-602	Advanced Software System Architecture	Domain Core	3	Software Engineering
CSC-524	Advanced Theory of Computation	Domain Electives	3	Computer Science
SWE-573	Advanced Topics in Software Engineering	General Electives	3	Software Engineering
SWE-610	Agent-Based Modeling	General Electives	3	Software Engineering
SWE-607	Agile Software Development Methods	Domain Electives	3	Software Engineering
CSC-535	Artificial Neural Networks	General Electives	3	Artificial Intelligence
CSC-517	Automatic machine learning	General Electives	3	Artificial Intelligence
CSC-633	Big Data Analytics	General Electives	3	Information Management
SWE-634	Business Process Re-Engineering	General Electives	3	Software Engineering
CSC-656	Complex Networks	Domain Electives	3	Net-Centric Computing
SWE-605	Component-Based Software Engineering	Domain Electives	3	Software Engineering
CSC-662	Computational Intelligence	General Electives	3	Artificial Intelligence
CSC-520	Computer Integrated Manufacturing	General Electives	3	Artificial Intelligence
CSC-674	Computer Vision and Machine Learning	General Electives	3	Artificial Intelligence
CSC-655	Cyber Security	General Electives	3	Net-Centric Computing
CSC-515	Data mining	General Electives	3	Artificial Intelligence
CSC-634	Data Science	General Electives	3	Data Science
CSC-514	Deep Learning	General Electives	3	Artificial Intelligence
CSC-553	Digital Image Processing	General Electives	3	Artificial Intelligence
CSC-644	Distributed and Cloud Computing	General Electives	3	Net-Centric Computing
CSC-532	Distributed Database Systems	General Electives	3	Information Management
SWE-609	Empirical Software Engineering	Domain Electives	3	Software Engineering
SWE-571	Experimentations in Software Engineering	General Electives	3	Software Engineering
SWE-643	Formal Methods in Software Engineering	General Electives	3	Software Engineering
CSC-518	Fuzzy logic	General Electives	3	Artificial Intelligence
CSC-641	Grid and Cluster Computing	General Electives	3	Net-Centric Computing

CSC-523	Human Body System	General Electives	3	Artificial Intelligence
SWE-672	Human Capital & Organizational Behavior	General Electives	3	Software Engineering
CSC-512	Information retrieval	General Electives	3	Artificial Intelligence
CSC-554	Information Security	General Electives	3	Net-Centric Computing
CSC-519	Internet of things	General Electives	3	Artificial Intelligence
CSC-529	Introduction to Robotics	General Electives	3	Artificial Intelligence
SWE-541	Knowledge-Based Software Engineering	General Electives	3	Software Engineering
CSC-534	Knowledge Discovery and Data Mining	General Electives	3	Intelligent Systems
CSC-572	Machine Learning	General Electives	3	Artificial Intelligence
SWE-551	Machine Learning Applications for Software Engineering	General Electives	3	Software Engineering
CSC-653	Mobile Computing	General Electives	3	Net-Centric Computing
CSC-691	MS Thesis-I	Domain Core	3	Computer Science, Artificial Intelligence, Software Engineering
CSC-692	MS Thesis-II	Domain Core	3	Computer Science, Artificial Intelligence, Software Engineering
CSC-673	Multimedia and Image Mining	General Electives	3	Artificial Intelligence
CSC-652	Network Design and Management	General Electives	3	Net-Centric Computing
CSC-552	Network Risk Management	General Electives	3	Net-Centric Computing
CSC-642	Parallel Computing	General Electives	3	Net-Centric Computing
CSC-516	Pattern Recognition	General Electives	3	Artificial Intelligence
CSC-675	Probabilistic Reasoning	General Electives	3	Intelligent Systems
CSC-525	Programming for Artificial Intelligence	General Electives	3	Artificial Intelligence
CSC-676	Quantum Computing	General Electives	3	Intelligent Systems
SWE-613	Reliability Engineering	General Electives	3	Software Engineering
CSC-513	Research Methodology	Domain Supporting	3	Computer Science
CSC-533	Semantic Web	General Electives	3	Intelligent Systems
SWE-611	Software Configuration Management	General Electives	3	Software Engineering
SWE-642	Software Configuration Management	General Electives	3	Software Engineering
SWE-633	Software Costing and Estimation	General Electives	3	Software Engineering
SWE-531	Software Development: Tools & Engineering	General Electives	3	Software Engineering

SWE-561	Software Engineering Ontologies	General Electives	3	Software Engineering
SWE-604	Software Measurement and Metrics	Domain Electives	3	Software Engineering
SWE-532	Software Process Management and Metrics	General Electives	3	Software Engineering
SWE-521	Software Project Management	General Electives	3	Software Engineering
SWE-523	Software Quality Assurance and Management	General Electives	3	Software Engineering
SWE-522	Software Requirement Engineering	General Electives	3	Software Engineering
SWE-635	Software Risk Management	Domain Electives	3	Software Engineering
CSC-536	Software System Design and Architecture	General Electives	3	Software Engineering
SWE-603	Software Testing and Quality Assurance	Domain Core	3	Software Engineering
SWE-582	Software Verification and Validation	General Electives	3	Software Engineering
CSC-530	Space Robotics	General Electives	3	Artificial Intelligence
CSC-632	Spatio/Temporal Database Systems	General Electives	3	Information Management
CSC-526	Speech Signal Processing	General Electives	3	Artificial Intelligence
CSC-537	Theory of Programming Language	Domain Electives	3	Computer Science
CSC-542	Ubiquitous and Pervasive Computing	General Electives	3	Net-Centric Computing
CSC-657	Wireless Sensor Networks	General Electives	3	Net-Centric Computing
CSC-658	Generative Artificial Intelligence	General Electives	3	Net-Centric Computing
CSC-659	Large Language Models	General Electives	3	Net-Centric Computing
CSC-701	bioinformatics	General Electives		Computer Science