

BScHons (AI) – Curriculum - Semester Allocation

Course Code	Course Title	Type	Lecture (Hrs)	Lab/Tutorials (Hrs)	Credits
Level 1 - Semester I					
CM 1210	Introduction to Intelligent Machines	C	2	-	2
CM 1220	Fundamentals of Machines	C	1	2	2
CM 1230	Foundations of Artificial Intelligence	C	2	-	2
IN 1331	Microcontroller Based System Design	C	2	2	3
IN 1321	Computer Organization	C	2	1	2.5
IN 1101	Programming Fundamentals	C	3	2	4
IS 1011	English (NGPA)	C	2	2	3
CM 1900	Intelligent Machines Inspirational Project	C			2.5
Level 1 - Semester II					
CM 1410	Probability and Statistics	C	2	2	3
CM 1310	Linear Algebra and Calculus	C	2	2	3
IN 1401	Fundamentals of Databases	C	2	1	2.5
IN 1111	Data Structures and Algorithms I	C	2	1	2.5
IN 1501	Data Communication	C	2	1	2.5
IN 1621	Web Technologies	C	2	2	3
Level 2 - Semester I					
CM 2510	Modern Approach to Artificial Intelligence	C	2	1	2.5
IN 2311	Operating Systems	C	2	1	2.5
IN 2211	Object-oriented Analysis and Design	C	2	1	2.5
IN 2201	Software Engineering	C	2	1	2.5
IN 2101	Object-Oriented Programming	C	2	2	3
IS 1101	Principles of Management	C	2	1	2.5
CM 2900	Industry Based AI Software Project	C			3
Level 2 - Semester II					
CM 2420	Statistical Inference	C	2	2	3
CM 2320	Mathematical Methods	C	2	1	2.5
CM 2520	Deductive Reasoning and Logic Programming	C	2	1	2.5
IN 2111	Data Structures and Algorithms II	C	2	1	2.5
IN 2511	Computer Networks	C	2	1	2.5
IN 2601	Computer Graphics	C	2	2	3
IN 2401	Database Management Systems	C	2	2	3

Level 3 - Semester I					
CM 3610	Expert Systems	C	2	1	2.5
CM 3230	Automata Theory	C	2	1	2.5
CM 3710	Artificial Neural Networks	C	2	1	2.5
CM 3720	Machine Learning	C	2	1	2.5
CM 3810	Fuzzy Logic	C	2	1	2.5
CM 3630	Multi Agent System	C	2	1	2.5
IN 2321	Computer Architecture	C	2	1	2.5
IS 3700	IT Project Management	C	2	1	2.5
CM 3130	Operations Research	E	2	1	2.5
CM 3640	Artificial Cognitive Systems	E	2	1	2.5
CM 3430	Computational Statistics	E	2	1	2.5
CM 3340	Numerical Analysis	E	2	1	2.5
IN 3101	Enterprise Application Development	E	2	1	2.5

CM 3000	Industrial Training (NGPA)	C	24 Weeks	6	
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Level 3-Semester II					
CM 3900	Independent Study in AI (NGPA)	C	2	-	2
CM 3530	Research Methods	C	2	1	2.5
CM 3620	Natural Language Processing	C	2	1	2.5
CM 3820	Evolutionary Computing	C	2	1	2.5
IS 4430	Social Aspect of IT	C	2	1	2.5
CM 3250	Fundamentals of Visual Communication Design	E	2	1	2.5
CM 3540	Bioinformatics	E	2	1	2.5
CM 3830	Rough Set Theory	E	2	1	2.5
IS 2200	Principles of Marketing and Consumer Solutions	E	2	1	2.5
IN 3410	Data Mining and Data Warehousing	E	2	1	2.5

Level 4 – Semester I					
CM 4650	Semantic Web & Ontological Modelling	C	2	1	2.5
CM 4730	Deep Learning	C	2	1	2.5
CM 4150	Recommender Systems	C	2	1	2.5
CM 4260	Machine Translations	E	2	1	2.5
CM 4560	Philosophy of Science (NGPA)	C	2	-	2
IN 4630	Game Theory	E	2	1	2.5
CM 4690	Introduction to Agent-based Modelling	E	2	1	2.5
CM 4280	Theory of Compilers	E	2	1	2.5
CM 4240	Robotics	E	2	1	2.5
CM 4460	Time Series Analysis & Forecasting	E	2	1	2.5
CM 4180	Mathematical Modelling	E	2	1	2.5
IN 4621	Digital Image Processing	E	2	1	2.5

IN 4721	Geographic Information Systems	E	2	1	2.5
IN 4521	High Speed Communication Networks	E	2	1	2.5
IN 4411	Big Data Analytics	E	2	1	2.5
CM 4660	Speech Processing	E	2	1	2.5
IN 4640	Machine Vision	E	2	1	2.5
IS 3610	Management Information Systems	E	2	1	2.5
CM 4900	Research Project in AI	C			10

Level 4 - Semester II

CM 4670	Quantum Computing	E	2	1	2.5
CM 4290	Swarm Intelligence	E	2	1	2.5
CM 4170	Abstract Algebraic Structures	E	2	1	2.5
CM 4450	Computational Bayesian Statistics	E	2	1	2.5
CM 4440	Advanced Statistical Modelling	E	2	1	2.5
CM 4680	Neuroscience for Artificial Intelligence	E	2	1	2.5
CM 4740	Deep Reinforcement Learning	E	2	1	2.5
CM 4550	Distributed Computing for AI	E	2	1	2.5
CM 4250	Affective Computing	E	2	1	2.5
CM 4270	Theory of Computability and Complexity	E	2	1	2.5
IS 4600	IT Quality Assurance	C	2	1	2.5
IS 3450	Business and Entrepreneurship (NGPA)	C	2	1	2.5
IS 3020	Human Communication and Language Structures	E	2	1	2.5
IN 4550	Cyber Security	E	2	1	2.5
IN 4770	Cloud Computing	E	2	1	2.5