Division of EECS
Indian Institute of Science, Bangalore
M.Tech. (AI) – Curriculum

The curriculum of the two-year M.Tech. (AI) program comprises a total of 64 credits of which 43 credits account for course work and 21 credits for project work. The course work is organized into:

- Pool A Courses (19 Credits) (Hardcore)
- Pool B Courses (Minimum 12 Credits) (Softcore)
- Recommended Electives (balance to bring total course Credits to a minimum of 43)

Pool A Courses: 19 credits

E0 251	3:1	Data Structures and Algorithms
E1 222	3:0	Stochastic Models and Applications **OR** E2 202 3:0 Random Processes
E0 299	3:1	Computational Linear Algebra
E0 230	3:1	Computational Methods of Optimization
E1 213	3:1	Pattern Recognition and Neural Networks **OR** E0 270 3:1 Machine Learning **OR** E2 236 3:1 Foundations of Machine Learning

Pool B Courses: (Minimum of 12 Credits)

E1 277	3:1	Reinforcement Learning
E1 216	3:1	Computer Vision
E9 241	2:1	Digital Image Processing
E9 261	3:1	Speech Information Processing
E1 254	3:1	Game Theory
E1 241	3:0	Dynamics of Linear Systems
E0 259	3:1	Data Analytics

E2 231	3:0	Topics in Statistical Methods
E9 206	3:0	Digital Video: Perception and Algorithms

Project : 21 Credits

E1 299	0:21	Dissertation Project

Recommended Electives: Balance to bring total course Credits to a minimum of 43 (In addition to the courses listed below, Pool B courses can also be taken as recommended electives. Courses not listed here can be taken as well with the approval of the faculty advisor).

E0 265	3:1	Convex Optimization and Applications
E0 334	3:1	Deep Learning for Natural Language Processing
E0 268	3:1	Practical Data Science
DS 256	3:1	Scalable Systems for Data Science
E9 205	3:1	Machine Learning for Signal Processing
DS 222	3:1	Machine Learning with Large Data sets
DS 265	3:1	Deep Learning for Computer Vision
E0 306	3:1	Deep Learning: Theory and Practice
E0 249	3:1	Approximation Algorithms
E0 235	3:1	Cryptography
E0 238	3:1	Intelligent Agents
E2 201	3:0	Information Theory
E1 245	3:0	Online Prediction and Learning
E2 207	3:0	Concentration Inequalities
E1 244	3:0	Detection and Estimation Theory
E1 396	3:0	Topics in Stochastic Approximation Algorithms
E2 230	3:0	Network Science and Modelling
E1 246	3:1	Natural Language Understanding
E9 253	3:0	Neural Networks and Learning Systems
CPS 313	2:1	Autonomous Navigation