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 as follows:

- Pool-A courses (Hardcore): 19 credits
- Pool-B courses (Softcore): Minimum 12 credits
- Electives: Minimum 12 credits

Pool-A courses

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

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 208	3:1	Digital Video: Perception and Algorithms

Project

AI 299	0:21	Dissertation Project

Recommended Electives

The recommended electives are listed below. Pool B courses could also be taken as electives. Courses not listed here could also be taken as electives with the prior 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
E9 309	3:1	Advanced Deep Learning
CPS 313	2:1	Autonomous Navigation

(Last updated: February 18, 2021)