

Department of Artificial Intelligence

MTech TA 2-year Curriculum (applicable from Aug 2020 batch onwards)

Semester 1		Credits	
AI 5002	Probability and Random Variables	2	Department Core
AI 5000	Foundations of Machine Learning	3	Department Core
EE 5609	Matrix Theory	3	Department Core
CS 6013	Advanced Data Structures and Algorithms	3	Department Core
xxxx	AI Electives (see baskets)	1	Department Electives
SS xxxx	English Communication	1	Soft Skills (may be completed in second sem also depending on course offering)
SS xxxx	Industry Lectures*	0.5	Soft Skills (may be completed in second sem also depending on course offering)
	<i>Total</i>	13.5	
Semester 2			
AI 5100	Deep Learning	3	Department Core
xxxx	AI Electives (see baskets)	9	Department Electives
SS xxxx	Industry Lectures*	0.5	Soft Skills
	<i>Total</i>	12.5	
Summer			
AI 6100	Thesis stage - I	3	Thesis
	<i>Total</i>	3	
Semester 3			
AI 6200	Thesis stage - I	9	Thesis
	<i>Total</i>	9	
Semester 4			
AI 6300	Thesis stage - II	12	Thesis
	<i>Total</i>	12	

MTech RA 3-year Curriculum (applicable from Aug 2020 batch onwards)

Semester 1		Credits	
AI 5002	Probability and Random Variables	2	Department Core
AI 5000	Foundations of Machine Learning	3	Department Core
EE 5609	Matrix Theory	3	Department Core
SS xxxx	English communication	1	Soft Skills (may be completed in second sem also depending on course offering)
SS xxxx	Industry Lectures*	0.5	Soft Skills
	<i>Total</i>	9.5	
Semester 2			
AI 5100	Deep Learning	3	Department Core
xxxx	AI Electives (see baskets)	6	Department Electives
SS xxxx	Industry Lectures*	0.5	Soft Skills
	<i>Total</i>	9.5	
Semester 3			
AI 6110	Thesis stage - I	3	Thesis
CS 6013	Advanced Data Structures and Algorithms	3	Department Core
xxxx	AI Electives (see baskets)	3	Department Electives
	<i>Total</i>	9	
Semester 4			
AI 6210	Thesis stage - II	6	Thesis
SS xxxx	Industry lectures*	0	Soft Skills
	AI Electives (see baskets)	1	Department Electives
	<i>Total</i>	7	

	Semester 5		
AI 6310	Thesis stage - III	6	Thesis
	Semester 6		
AI 6410	Thesis stage - IV	9	Thesis

Category wise split	Credits
Department Electives	10
Department Core	14
Thesis	24
Total	48
Soft Skills	2

Electives not in the lists below can be considered in a given basket with approval of faculty advisor (e.g. a new AI elective offered by a new faculty).

Elective basket "Speech and Vision" (At least 3 credits from the following)	
Course name	Credits
Computer Vision	3
Speech Systems	3
Image and Video Processing	3
Surveillance Video Analytics	3

Elective basket "Core AI and ML" (At least 4 credits from the following)	
Course name	Credits
Intro to Statistical Learning theory	1
Kernel Methods	1
Sequence Models	
Optimization Methods in Machine Learning/Convex Optimization-II	3
Bayesian Data Analysis	2
Nonlinear Control Techniques	3
Information Theory and Coding	3
Introduction to Submodular Functions	1
Artificial Intelligence	2

Elective basket "Language Technologies" (At least 3 credits from the following)	
Course name	Credits
Natural Language Processing	3
Information Retrieval	3
Text Processing	3