

PhD Bucket wise courses list

Programme Core (PC)	Programme Elective (PE) - Mathematics & Foundation bucket	Programme Elective (PE) - Learning bucket	Programme Elective (PE) - Data Science bucket	Programme Elective (PE) - AI Applications bucket
AIV 7091 Research Communication	AIL7001 Mathematical Foundations of MINDS	AIL7024 Machine Learning	AIL7026 Data Mining	AIL7031 Deep Learning for Computer Vision
	AIL7002 Data Structures and Algorithm	COL7341 Fundamentals of Machine Learning	COL7361 Data Mining	AIL7061 Computational Cognition
	ELL7285 Machine Learning and Optimization	AIL7025 Introduction to AI	COL7364 Information Retrieval and Web Search	AIL7062 AI for Computational Biology
	ELL7281 Software Fundamentals of Computing and Intelligent Systems	COL7333 Introduction to AI	COL7360 Advanced Data Management	AIL8032 Large Language Models
	AIL7011 Numerical Optimization	COL7375 Deep Learning	AIL7063 Artificial Intelligence for Earth Observation	COL7386 Advanced Functional Brain Imaging
	AIL7013 Machine Learning and Optimization	AIL7021 Deep Learning	AIL7051 Bayesian Statistical Modelling and Computation	COL8628 Advanced Computer Vision
	ELL7400 Signal Theory	AIL7022 Reinforcement Learning		COL7680 Introduction to Computer Vision

	ELL7402 Detection and Estimation Theory	AIL8027 Advanced Reinforcement Learning		ELL7293 Computer Vision
	AIL8001 Intro. to the Mathematics of Machine Learning	AIL7023 Graph Machine Learning		ELL8290 Computational Neuroscience
	MTL7717 Fuzzy Sets and Applications	AIL8024 Computational Learning Theory		AML7810 Probabilistic Machine Learning for Mechanics
	MTL7763 Introduction to Game theory	ELL7286 Introduction to Machine Learning		AML7800 Deep Learning for Mechanics
	AIL7014 Introduction to Optimization			ELL8284 Natural Language Processing
				ELL8299 Large Language Models

The semester-wise approvals (such as for the Special Topics courses) are not provided in the above list. They are as follows:

COL8385 - Special Topics in ML I - Approved for AY 2025-26 Sem 2