

Table of Curriculum

Classification	Subject No.	Subject Name	Lecture:Lab: Credit	Semester	Remark
Mandatory General Course	CC010	Special Lecture on Leadership	1:0:0	F	
	CC020	Ethics and Safety I	1AU	S/F	
	CC500	Scientific Writing	3:0:3	S/F	
	CC510	Introduction to Computer Application	2:3:3	S/F	
	CC511	Probability and Statistics	2:3:3	S/F	
	CC512	Introduction to Materials and Engineering	3:0:3	S/F	
	CC513	Engineering Economy and Cost Analysis	3:0:3	F	
	CC522	Introduction to Instruments	2:3:3	F	
	CC530	Entrepreneurship and Business Strategies	3:0:3	F	
Elective Course	RE510	Intelligent Robot Design Lab	1:6:3	S	
	EE511	Computer Architecture	3:0:3	S	
	EE534	Pattern Recognition	3:0:3	F	*CS676 ⊙
	EE581	Linear Systems	3:0:3	S	*ME561 ⊙
	EE585	Mobile Robotics and Autonomous Navigation	3:0:3	F	
	EE682	Intelligent Control Theory	3:0:3	F	
	EE683	Robot Control	3:0:3	F	
	EE735	Computer Vision	3:0:3	F	
	CS477	Introduction to Intelligent Robotics	3:0:3	S	⊙
	CS510	Computer Architecture	3:0:3	S	⊙
	CS550	Software Engineering	3:0:3	S	
	CS554	Design for Software and System	2:3:3	F	
	CS570	Artificial Intelligence and Machine Learning	3:0:3	S	⊙
	CS572	Intelligent Robotics	3:0:3	F	⊙
	CS576	Computer Vision	3:0:3	S/F	
	CS672	Reinforcement Learning	3:0:3(2)	S/F	*AI611
	ME453	Introduction to Robotics Engineering	3:0:3(6)	F	⊙
	ME459	Introduction for Visual Intelligence		S	⊙
	ME553	Robot Dynamics	3:0:3(6)	S/F	⊙
	ME652	Mobile Robotics	3:0:3(0)	S	
ME655	Robotics Engineering	3:1:3	F		
AI502	Deep Learning	3:0:3	S/F		
AI611	Deep Reinforcement Learning	3:0:3	S/F		
CE583	Advanced Dynamic and Nonlinear Control of Civil Robots	3:0:3	S		
Elective Course	RE502	Sensor & Sensing	3:0:3	F	
	RE530	Sensor-based Mobile Robots	1:6:3	S	
	RE540	Robot Vision and Sensing	3:0:3	F	
	RE610	Network-based Robotics	3:0:3	S	
	RE710	Artificial Life	3:0:3	S	
	RE720	Humanoid Robot	3:0:3	F	
	RE722	Robot Vision and Digital Image System	3:0:3	F	
	RE730	Micro/Nano Robotics	3:0:3	S	
	RE740	Evolutionary Robotics	3:0:3	F	
	RE887	Special Topics on Robot Technology	3:0:3	F	
	MO508	Navigation and Sensing Systems	3:0:3	S	⊙
	MO560	The Principles and Applications of the Kalman Filter	3:0:3	S	⊙
	MAS565	Numerical Analysis	3:0:3	S	⊙
	IE561	Advanced Information System Engineering	3:0:3	F	⊙
	IE761	Cognitive Engineering	3:0:3	F	

Classification	Subject No.	Subject Name	Lecture:Lab: Credit	Semester	Remark
	ID506	Media Interaction Design	3:0:3	F	⊙
	ID706	Theory of Interface Design	3:0:3	F	
	EE414	Embedded Systems	3:1:3	F	⊙
	EE481	Intelligent Systems	3:0:3	S	⊙
	EE516	Embedded Software	1:6:3	F	⊙
	EE531	Statistical Learning Theory	3:0:3	S	⊙
	EE533	Digital Speech Processing	3:0:3	S	⊙
	EE535	Digital Image Processing	3:0:3	S	⊙
	EE538	Neural Networks	3:0:3	F	⊙
	EE573	Introduction to VLSI Systems	3:0:3	S	⊙
	EE582	Digital Control	3:1:3	S	⊙
	EE591	Introduction to Electric Vehicles	3:1:3	S	⊙
	EE594	Power Electronics Systems	3:0:3	F	⊙
	EE619	Mathematical Foundations of Reinforcement Learning	3:0:3	S	
	EE667	Multiple View Geometry	3:0:3	S	
	EE681	Nonlinear Control	3:0:3	F	
	EE686	Optimization Theory	3:0:3	F	
	EE688	Optimal Control Theory	3:0:3	F	
	EE734	Image Understanding	3:0:3	S	
	EE737	Medical Imaging Technology	3:0:3	S	
	EE738	Speech Recognition Systems	3:0:3	S	
	EE739	Cognitive Information Processing	3:0:3	F	
	EE788	Robot Cognition and Planning	3:0:3	F	
	EE827	Special Topics in Communication	3:0:3	S/F	
	EE837	Special Topics in Signal Processing	3:0:3	S/F	
	EE838	Special Topics in Image Engineering	3:0:3	S/F	
	EE887	Special Topics in Robotics	3:0:3	S/F	*RE887
	CS470	Introduction to Artificial Intelligence	3:0:3	F	⊙
	CS520	Theory of Programming Languages	3:0:3	F	⊙
	CS530	Operating System	3:0:3	S/F	⊙
	CS540	Network Architecture	3:0:3	S/F	⊙
	CS543	Distributed Systems	3:0:3	F	⊙
	CS577	Robot Learning and Interaction	3:0:3	F	⊙
	CS580	Interactive Computer Graphics	3:1:3	S	⊙
	CS588	Deep Learning based Image Search	3:0:3	S	⊙
	CS600	Graph Theory	3:0:3	S/F	
	CS610	Parallel Processing	3:0:3	S	
	CS655	System Modeling and Analysis	3:0:3	S/F	*EE612
	CS670	Fuzzy and Intelligent System	3:0:3	S/F	
	CS671	Advanced Machine Learning	3:0:3	S/F	
	CS686	Motion Planning and Applications	3:0:3	F	
	CS688	Large-Scale Image & Video Retrieval	3:0:3	F	
	CS770	Topics in Computation Theory	3:0:3	S/F	
	CS774	Topics in Artificial Intelligence	3:0:3	S/F	
	CS776	Topics in Cognitive Science	3:0:3	S/F	
	CS780	Topics in Interactive Computer Graphics	2:3:3	S/F	
	CE551	Soft Computing Techniques for Engineering Design	3:0:3	S	⊙
	CE554	Mechanical Design of Civil Robot	3:0:3	S/F	⊙
	CE558	Introduction to Civil Robotics	3:0:3	S/F	⊙
	ME505	Measurement Instrumentation	3:1:3	F	⊙
	ME550	Advanced Dynamics	3:0:3	F	⊙
	ME559	Dynamics and Control of Ocean Vehicles	3:0:3	S/F	⊙

Classification	Subject No.	Subject Name	Lecture:Lab: Credit	Semester	Remark
	ME561	Linear System Control	3:0:3	S	
	ME562	Digital System Control	3:0:3	F	
	ME585	Mechanics and Control of Human Movement	3:0:3	S	◎
	ME600	Mechanical System Design Project 1	0:9:3	S	
	ME601	Mechanical System Design Project 2	0:9:3	F	
	ME642	Medical Biomechanics	3:0:3	F	
	ME654	Noise Control	3:0:3	F	
	ME662	Design of Precision Actuation System	3:0:3	S	
	ME683	Human Robot Interaction: Haptics	3:0:3	F	
	ME761	Nonlinear System Control	3:0:3	S	
	AI501	Machine Learning for AI	3:0:3	S/F	
	AI504	Programming for AI	3:0:3	F	
	AI505	Optimization for AI	3:0:3	F	
	AI602	Advanced Deep Learning	3:0:3	S/F	
	AI603	Machine Learning Theory	3:0:3	S/F	
	AI604	Deep Learning for Computer Vision	3:0:3	S/F	
	AI605	Deep Learning for Natural Language Processing	3:0:3	S/F	
	AI610	Sequential Decision Making under Uncertainty	3:0:3	S/F	
	AI614	Robot Task and Motion Planning	3:0:3	S/F	
	AI616	Deep Learning Theory	3:0:3	S/F	
	AI617	Machine Learning for Robotics	3:0:3	S/F	
	AI701	Bayesian Machine Learning	3:0:3	S/F	
	AI703	Systems and Applications of Artificial Intelligence and Machine Learning	3:0:3	S	
	BiS571	BioElectroMechanics	3:0:3	S	◎
	BiS651	Hearing and Auditory Model	3:0:3	S	
	BiS652	Human Visual Model	3:0:3	F	
	BiS653	Advanced MRI Techniques	3:0:3	S	
	BiS673	Bioelectronic Devices	3:0:3	S	
	SEP523	Software Design	3:1:3	F	
	SEP609	Architecture for Software System	3:0:3	S	
Research	RE960	Thesis Research(Master)		S/F	
	RE966	Seminar(Master)	1:0:1	S	*EE966
	RE980	Thesis Research(Doctoral)		S/F	
	RE986	Seminar(Doctoral)	1:0:1	S	*EE986

※ * stands for substitutable courses.

※ ◎ : Course mutually recognized by undergraduate and graduate programs