Course List

Course Category			Course Name	Credits			1st-year	2nd-year	3rd-year	4th-year
				Mandatory	Auto-Regi	Elective				
Engineering Courses → Faculty-wide Courses	Faculty-wide General Courses		Introduction to Mechatronics Engineering	2			O	O	O	O
			Intellectual Property			2				O
	Engineering Physics Courses	Basic	Engineering Physics 1	4			O			
			Engineering Physics 1 Exercises	2			O			
			Engineering Physics 2	6			O	O	O	O
			Engineering Physics 2 Exercises	2			O	O	O	O
	Engineering Math Courses	Basic	Calculus and Linear Algebra 1	4			O			
			Calculus and Linear Algebra 1 Exercises	2			O			
			Calculus and Linear Algebra 2	4			O	O	O	O
			Calculus and Linear Algebra 2 Exercises	2			O	O	O	O
			Ordinary Differential Equations		2			O	O	O
			Ordinary Differential Equations Exercises		1			O	O	O
			Vector Calculus		2			O	O	O
			Vector Calculus Exercises		1			O	O	O
		Applied	Fourier Analysis and Partial Differential Equations			2			O	O
			Fourier Analysis and Partial Differential Equations Exercises			1			O	O
			Complex Analysis, Probability and Statistics			2			O	O
			Complex Analysis, Probability and Statistics Exercises			1			O	O
	Information Processing Courses	Basic	Introduction to Numerical Analysis Programming	2			O	O	O	O
			Information Literacy	2			O	O	O	O
			Algorithmic Thinking and Programming with Python	2			O	O	O	O
			Algorithmic Thinking and Programming with Python Exercises	1			O	O	O	O
		Applied	Introduction to C Programming			2		O	O	O
			Introduction to C Programming Exercises			1		O	O	O
			System Programming with C			2		O	O	O
			System Programming with C Exercises			1		O	O	O
			Digital Signal Processing			2			O	O
			Digital Signal Processing Exercises			1			O	O
Engineering Courses → Pillar-specific Courses	Design and Production	Basic	Machine Design		2			O	O	O
			Machine Design Exercises		1			O	O	O
		Applied	Introduction to Production Engineering			2			O	O
	Robotics	Applied	Introduction to Mechanisms and Mobile Robots			2		O	O	O
		Advanced	Introduction to Robotic Manipulators			2			O	O
	Instrumentation	Applied	Introduction to Scientific Measurement			2			O	O
		Advanced	Introduction to Sensors			2			O	O
	Control	Applied	Classical Control Engineering			2		O	O	O
			Modern Control Engineering			2			O	O
		Advanced	Digital Control Engineering			2			O	O
	Mechanics	Basic	Fundamental Mechanics	2			O	O	O	O
			Fundamental Mechanics Exercises	1			O	O	O	O
	Materials	Basic	Mechanics of Materials		2				O	O
			Mechanics of Materials Exercises		1				O	O
	Ionics	Basic	Introduction to Physical Chemistry		2				O	O
			Introduction to Physical Chemistry Exercises		1				O	O
		Applied	Introduction to Electrochemistry			2			O	O
		Advanced	Introduction to Battery Engineering			2			O	O
	Electromagnetics	Applied	Electromagnetic Theory			2		O	O	O
			Electromagnetic Theory Exercises			1		O	O	O
	Actuators	Applied	Fundamentals of Electric Motors			2		O	O	O
		Advanced	Control Principles of Electric Motors			2		O	O	O
			Actuator Systems			2			O	O
	Energy	Applied	Electric Power Transmission and Distribution			2			O	O
			Electric Power Generation and Transformation			2				O
	Devices	Applied	Semiconductor Engineering			2		O	O	O
			Power Electronics Engineering			2			O	O
	Circuits	Applied	Electric Circuits			2		O	O	O
			Analog Electronic Circuits			2			O	O
			Logic Circuits			2			O	O
	Communication	Applied	Introduction to Communication Engineering			2			O	O
			Introduction to Information and Communications Networks			2				O
Engineering Courses → Experiments and Laboratory Exercises			Introduction to Design	2			O	O	O	O
			Exercise for Machine Shop Practice	3				O	O	O
			Mechatronics Laboratory (Robot: basic)	3				O	O	O
			Mechatronics Laboratory (Energy)			3			O	O
			Mechatronics Laboratory (Robot: advanced)			3			O	O
Engineering Courses → Comprehensive Practical Exercises			Pre-Capstone Project 1	2				O	O	
			Pre-Capstone Project 2	4					O	
			Capstone Project 1			2			O	O
			Capstone Project 2			4				O
			Laboratory Project 1			4			O	O
			Laboratory Project 2			4				O