

ROBOTICS & AI CURRICULUM

Course (Department, Number, Title) List all courses in the program by term starting with the first term of the first year and ending with the last term of the final year.	Indicate whether course is Required, Elective or a Selected Elective by an R, an E or an SE.1	Subject Area (Credit Hours)			English courses
		Math & Basic Sciences	Engineering Topics; Check if Contains Significant Design (√)	Other	
SEMESTER 1					
Fundamentals of Laws (2)	R			2	
Linear Algebra (3)	R	3			
Computing Fundamentals (3)	R	3			
General Physics 1+Lab (3)	R	3			
Career Orientation and experience (2)	R			2	
Fundamentals of Electric Circuits (3)	R	1	2		
Physical Education 1 (1*)	R			1	English courses
SEMESTER 2					
Differential Equations and Analytics (3)	R	3			
English 1 (3)	R			3	
General Physics 2 + Lab (3)	R	3			
Philosophy of Marxism and Leninism (3)	R			3	
Statistics & Probability (2)	R	2			
Management studies (2)	R			2	
Physical Education 2 (1*)	R			1	English courses
Military Education (8)	R			8	
SEMESTER 3					
Marxism - Leninism Political Economy (2)	R			2	
English 2 (3)	R			3	
Calculus (2)	R	2			
Discrete Mathematics and Algorithms + Lab (3)	R	3			
Applied Mathematics for Artificial Intelligence (3)	R	3			
Introduction to Object-Oriented Programming + Lab (3)	R	3			
Physical Education 3 (1*)	R			1	
SEMESTER 4					
Scientific Socialism (2)	R			2	
English 3 (2)	R			2	
Microelectronics Circuit Design + Lab (4)	R	2	2		English courses
Sensors + Lab(3)	R		3		
Signal and system + Lab (3)	R	1	2		English courses
Entrepreneurship and leadership skill (2)	E		2		
Machine Learning (3)	R	1	2		English courses
SEMESTER 5					
History of Vietnam Communist Party (2)	R			2	
Automation control theory (3)	R	1	2		
Programming for electrical and electronic engineering (3)	R		3		
Image processing + Lab (3)	R	1	2		English courses
Reinforcement Learning Fundamentals + Lab (3)	R	1	2		
Initial business internship (2)	R		2		
ROS programming + Lab (3)	SE		3		
SEMESTER 6					
Ho Chi Minh's ideology (2)	R			2	
Microprocessors and Microcontrollers + Lab (3)	R		3		English courses
Programmable Logic Controllers + Lab (3)	R		3		
Writing and presenting in English (2)	R			2	
Deep Learning Fundamentals + Lab (3)	R	1	2		English courses
Advanced Reinforcement Learning (3)	R		3		
First Project (1)	R		1		
SEMESTER 7					
IoT System design + Lab (3)	R		3		
Advanced Deep Learning (3)	R		3		
Robotics + Lab (3)	R		3		English courses
Industrial robot programming + Lab (2)	R		2		English courses
Computer vision (3)	R		3		English courses
Capstone design Project 1 (3)	R		3		
SEMESTER 8					
Natural language processing (3)	R		3		
Speech Recognition (3)	R		3		
Programming for Simulation of Robots and Mechatronics Systems (2)	R		2		
Self-driving cars + Lab (3)	SE		3		English courses
Intelligent IoT and big data + Lab (3)	E		3		
Capstone Design Project 2 (2)	R		2		
SEMESTER 9					
Graduation Internship (4)	R		4		
Graduation Thesis (10)	R		10		
TOTALS-ABET BASIC-LEVEL REQUIREMENTS		37	86		
OVERALL TOTAL CREDIT HOURS FOR COMPLETION OF PROGRAM	150				