

Robotics and AI Engineering 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)		
		Math & Basic Sciences	Engineering Topics	Other
Year 1 Semester 1				
01416316 Computer programming for RAI	R		3	
01006710 Introduction to calculus	R	3		
01006723 General physics 1	R	3		
01006724 General physics laboratory 1	R	1		
01416309 Engineering 3D drawing	R		3	
xxxxxxx Gen ed. Elective 1	E			3
01416000 (ESL)Academic listening and speaking	R			3
Year 1 Semester 2				
01416320 Introduction to robotics and AI	R		3	
01006803 Engineering mechanics	R		3	
01006711 Advanced calculus	R	3		
01006725 General physics 2	R	3		
01006726 General physics laboratory 2	R	1		
01416318 Microprocessor and interface	R		3	
01416514 Robotics laboratory 1	R		1	
01416001 (ESL)Academic reading and writing	R			3
Year 2 Semester 1				
01416312 Electric circuit and electronics	R		3	
01416301 Differential equations and matrix algebra	R	3		
01416515 Robotics laboratory 2	R		1	
01416521 Introduction to algorithms	R		3	
01416304 Feedback control	R		3	
xxxxxxx Gen ed. Elective 2	E			3
01416003 (ESL) Interpretation and arguments	R			3
Year 2 Semester 2				
01006719 Probability and statistics 1	R	3		
01416310 Strength of materials	R		3	
01416308 Kinematics and dynamics	R		3	
01416305 Artificial intelligence technology	R		3	
01416516 Robotics laboratory 3	R		1	
01416500 Computer vision	R		3	
xxxxxxx Gen ed. elective 3	E			3
Year 3 Semester 1				
01416801 Mathematics of data science and data analytic	R	3		
01416306 Safety and standardization in RAI	R		3	
01416319 Manufacturing process	R		3	
01006718 Discrete Mathematics	R	3		
01416xxx RAI elective subject 1	E		3	
01416xxx RAI elective mandatory subject 1	SE		3	
Year 3 Semester 2				
xxxxxxx Gen ed. Elective 4	E			3
01416315 Industrial electronics	R		3	
01416xxx RAI elective mandatory subject 2	SE		3	
01416632 Space Sciences	R	4		
01416701 RAI engineering capstone design preparation	R		3	
xxxxxxx Free elective 1	E			3
Year 3 Semester 3				
01006805 Industrial internship	R			
Year 4 Semester 1				
xxxxxxx Free elective 2	E			3
xxxxxxx Gen ed. Elective 5	E			3
01416xxx RAI elective subject 2	E		3	
01416xxx RAI elective mandatory subject 3	SE		3	
Year 4 Semester 2				
01416xxx RAI elective subject 3	E		3	
01416702 RAI engineering capstone design	R		3	
TOTALS (in terms of semester credit hours)		30	72	30

1. **Required** courses are required of all students in the program, **elective** courses (often referred to as open or free electives) are optional for students, and **selected elective** courses are those for which students must take one or more courses from a specified group.