

STEMMOZ LDA

ROBOTICS CURRICULUM – LEVEL 2

Sl. no	TOPIC	SUBTOPIC
1	Introduction	Level 2
2	Programming basics	<ul style="list-style-type: none"> a. What is coding and programming b. Understanding the structure of the code for any robot c. Different computer languages d. Importance of programming in robotics
3	Functions and keywords	<ul style="list-style-type: none"> a. For loop b. While loop c. Switch case d. Related functions and keywords
4	Sensing block	<ul style="list-style-type: none"> a. Ultrasonic sensor
5	Movement block	<ul style="list-style-type: none"> a. Kick motor set b. Pick and place arm kit
6	Controlling block	<ul style="list-style-type: none"> a. Arduino UNO board and hardware b. L293D board c. ULN2003 board
7	Power block	<ul style="list-style-type: none"> a. Batteries b. Power board c. Charger unit
8	Communication block	<ul style="list-style-type: none"> a. XY joystick b. Bluetooth module c. Smart phone and application d. Bluetooth application with smartphone

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9	Structural block	<ul style="list-style-type: none"> a. Ultrasonic sensor holder b. Robotic Arm Frame c. Kick motor frame
10	Electronics & sensors	<ul style="list-style-type: none"> a. Ultrasonic sensor testing b. Bluetooth testing c. XY joystick with LED chaser d. Servo controlling as clock
11	Arduino software troubleshooting	Hands – On
12	Robots	<ul style="list-style-type: none"> a. Joystick controlled robot b. obstacle avoidance robot c. Obstacle avoidance robot with buzzer alert d. Obstacle avoidance robot with LED alert e. Radar robot with path selection f. Joystick controlled obstacle avoidance robot g. Bluetooth controlled robot with if loop code h. Bluetooth controlled robot with Switch case code i. Distance measuring robot with Bluetooth j. Bluetooth controlled obstacle avoidance robot k. Football gaming robot with Bluetooth control



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		<ul style="list-style-type: none">l. Pick and place robotic arm controlm. Pick and place robot with joystick controln. Pick and place robot with Bluetooth controlo. Surveillance robot with mobile
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