



VEXcode

Virtual Robotics Course



Overview

VEXcode VR brings real-world STEM concepts to life making coding immersive, accessible, and fun.

It focuses on coding with a pre-built VEX robot with a drivetrain, object pickup, sensors, GPS, and a pen.



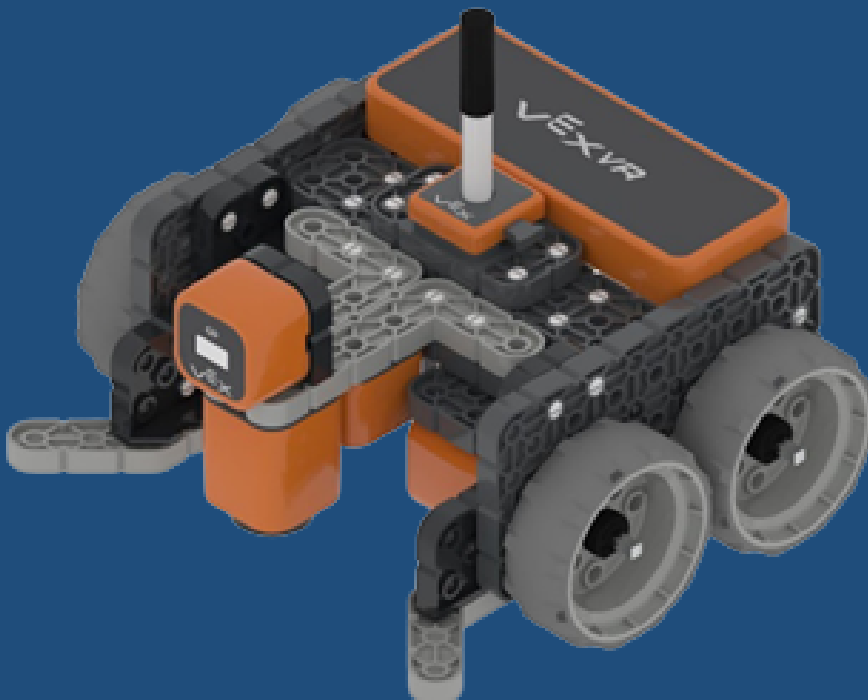
The 3D worlds bring variety to your coding activities making the learning process fun. Our team of education experts has created easy-to-follow activities and projects that can be implemented quickly.

Our curriculum is divided into 9 units from beginner to intermediate to advanced level.

Unit 01

Introduction and Fundamentals

- Getting Started with VEXcode VR
- Opening an Example and Running Your First Project
- Block shapes and their Meaning
- Tips and Tricks with VEXcode VR



Unit 02

Moving your Robot

Castle Crasher Project

- Identify behavior and commands
- Driving for Distance –
Moving forward and backward
- Change parameters in the [Drive in] block
- Turning the VR robot
- Turn to Heading
- Castle Crasher Challenge



Unit 03

Repeating Behaviours

Draw a House Project

- Drawing with the pen
- Draw a Square
- Mini Challenge
- Repeating Actions
- Flow of a project with a repeat block
- Draw a house challenge

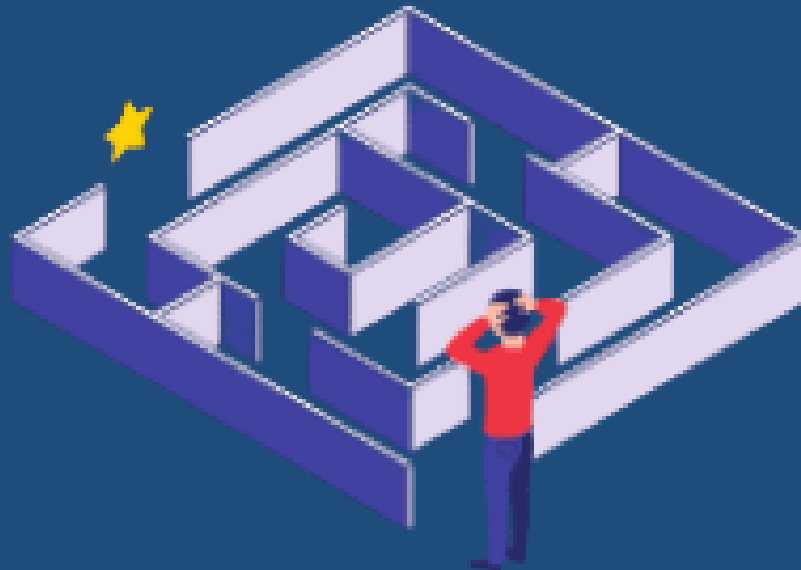


Unit 04

Navigating a Maze

Wall Maze Project

- Learn to use bumper sensor
- Using the [Wait until] block
- Using Multiple [Wait until] Block
- Driving Until Pressed
- Using Drivetrain Commands to Navigate the Wall Maze
- Wall Maze Challenge

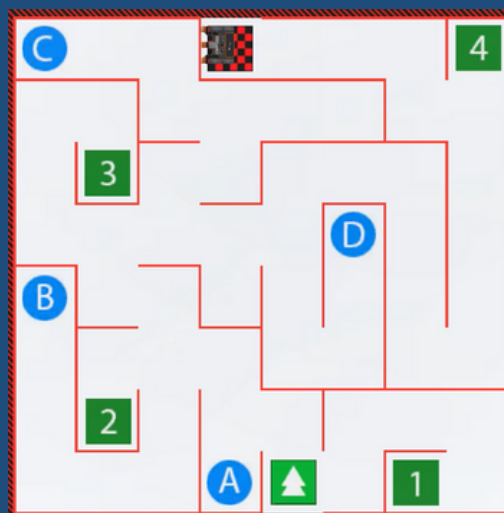


Unit 05

Detecting Walls from a Distance

Wall Maze Project using Distance

- Distance Sensor
- Using Comparison Block and Driving Until Near
- Drive to the letter A
- Mini Challenge
- Monitoring Sensor Values
- Turn Left to Reach the letter B
- Mini Challenge
- Wall Maze Challenge



Unit 06

Knowing Your Location

Drive to Three Numbers Project

- Location sensor
- Driving to a set of coordinates (X axis)
- Drive to Number 5
- Drive to Number 1
- Mini challenge
- Driving to a set of coordinates (Y axis)
- Drive to number 31
- Drive to Number 1 - Mini Challenge
- Drive to 3 Numbers challenge

91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
	2	3	4	5	6	7	8	9	10

Disk Maze Playground

- Eye sensor
- Eye sensor blocks
- Eye sensor in a VEXcode VR project
- Using the front eye sensor with [Wait Until]
- Drive to Green, then blue disks
- Mini Challenge
- Using Conditionals
- Using IF, THEN blocks
- Using Forever blocks
- Disk Maze Challenge Steps

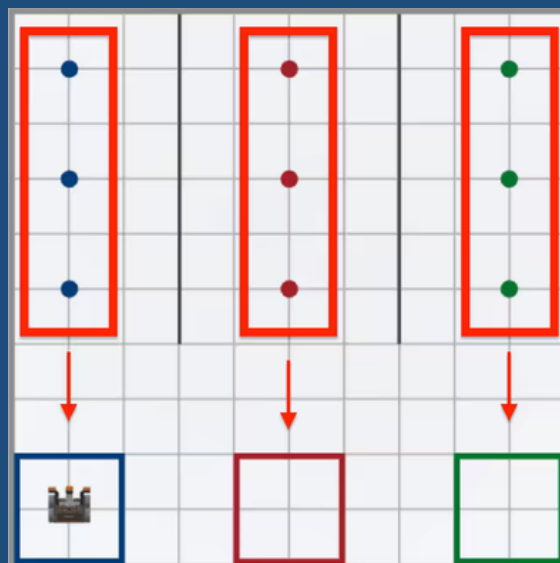


Unit 08

Moving Disks with Loops

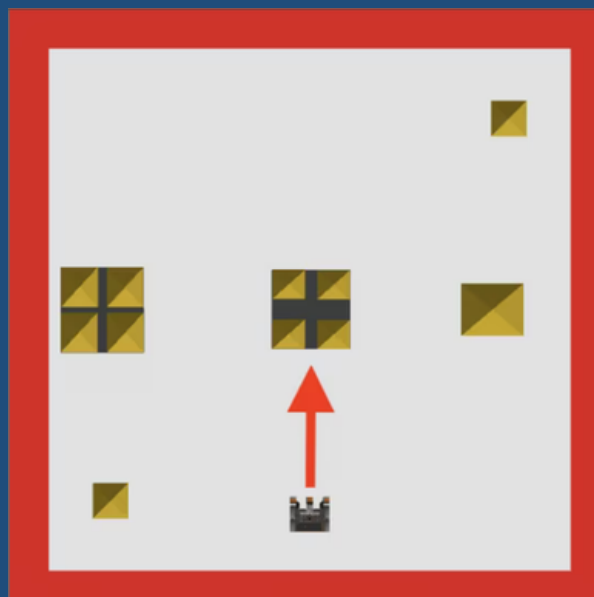
Disk Mover Project

- Use of electromagnets
- Mini challenge
- Using Reported Sensors
- Mini Challenge
- Using Nested Loops
- Move a Blue Disk
- Move a Red and Green Disk
- Disk Mover Challenge



Dynamic Castle Crasher Project

- Intro to Algorithms
- If, Then, Else statements
- Using Multiple sensors together
- Multiple Sensor Input
- When Colour Red detected
- Dynamic Castle Crasher Project





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