

Getting Started with MATLAB and Simulink for VEX Robotics

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Course Details

Description

This robotics course is based around the VEX EDR hardware using MATLAB and Simulink. The courseware contains detailed lesson plans and companion videos for instructors to use in their classrooms. This course covers setting up and connecting to the VEX robot, controlling and maneuvering the robot with the help of VEX sensors and encoders.

Original Course Documents

[Modules : Lesson Plans document](#)

[Videos Files: introduce and explain concepts](#)

[Simulink Models](#)

Course Contents

Module 1

- Software and Hardware Used
- VEX Companion App
- Creating and Simulating a model for the VEX Robot
- Arcade mode and Gamepad hardware
- Autonomous Mode

Module 2

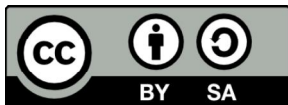
- VEXnet Competition Switch
- VEX Integrated Encoder Modules
- VEX Optical Shaft Encoders

Module 3

- VEX Ultrasonic Range Finder
- 2 level controller
- Setting distance from obstacles

Course Materials

1. VEX Robot
2. Software - MATLAB, Simulink, Stateflow, MATLAB Coder and Simulink Coder



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