

BEGIN ROBOTICS

SIMULATIONS

Associated with the Begin Robotics open online course developed by the University are a series of interactive web pages written by Richard Mitchell.

Some of these are used as exercises in this four week course. Others are used to help describe or demonstrate an aspect of robotics. Feel free to investigate them, but do note that full details are available on the Begin Robotics course.

REQUIREMENTS

These simulations require that you have a web browser which supports the canvas (such as Firefox, Chrome and modern versions of Internet Explorer), and that javascript is enabled.

WEEK 1

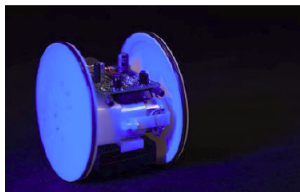


➔ [Define Speeds so robot moves](#)

➔ [Define Speeds for different actions](#)

➔ [Voltages and Wheel Directions](#)

WEEK 2



➔ [Define Speeds so robot avoids walls/follows a line](#)

➔ [Define Motor Speeds to react to lights](#)

➔ [How Ultrasonic sensors work](#)

➔ [Accelerometers on a phone](#)

➔ [Pulse Width Modulation](#)

➔ [Robot and PWM](#)

WEEK 3



➔ [Command a robot](#)

➔ [Define speeds to track a moving object](#)

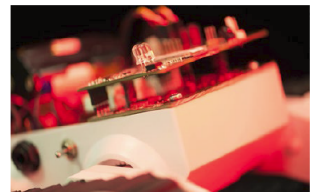
➔ [Showing Speed Control](#)

➔ [Controlling Rocking Motion of Robot](#)

➔ [Explaining Velocity Feedback](#)

➔ [Demonstration of Daisyworld](#)

WEEK 4



➔ [Define speeds to follow walls/maze](#)

➔ [Define Neurons for the Braitenberg Vehicle](#)

➔ [See a robot learn to avoid obstacles](#)

➔ [Multiple Robots Interacting](#)

➔ [Demonstrating Fractals](#)