**Assignment**

Part One (2 weeks):

Make a robot that can follow a set route

• The route will not change, nor will its location in the room

• The route will be marked with black tape

Note: this can be accomplished with only the pieces provided, but you are allowed to add additional pieces or components if you choose.

Part Two (2 weeks):

Create an Android app that acts as a remote controller for the robot.

You may use any IDE that you choose (ex. Android Studio)

The app must connect to the robot through a bluetooth connection

The app must include:

• Directional control (forward, backward, right, left).

• Speed control

Tournament Rules:

• Electronics and wires must be covered in some way (etc. construction paper)

• No intentional damage to other robots

• Balloons must be popped using the pins provided.

• No launching devices.

• The balloon will be taped to the back of your robot.

• No covering or shielding the balloon.

• Note: Extra components are allowed and encouraged.

**Components and Useful Websites**

Actobotics Sprout Runt Rover

https://www.servocity.com/sprout

Arduino Uno

https://www.arduino.cc/en/Main/Software

Motor and Servo Shield

https://learn.adafruit.com/adafruit-motor-shield-v2-for-arduino

Bluetooth Module

https://www.adafruit.com/product/1697