

2019 Robot Sign-out Sheet *parts originally sponsored by Tivoli*

All team members are responsible for the safe record of the robot components. Robot Number \_\_\_\_\_

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Signature: \_\_\_\_\_

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**Each robot platform** consists of the following parts. Check your kit before taking it with you

\_\_\_\_ Sterilite 16 Quart Storage Box, 16-5/8 x 11-3/4 x 7 in, White Lid with Clear Base

Robot Base (including Meccano/Erector pieces)

\_\_\_\_ 1x, Base plate, laser cut out of 12 x 24 x 0.25in plywood, [www.rcplanet.com](http://www.rcplanet.com) (~\$5)

\_\_\_\_ 5x, Straight 19 hole (2x #1A) and curved 11 hole (3x #89) pieces w/ 4x 4-40 screws and nuts

\_\_\_\_ 2x, Motor mount C-clamp w/ 4x, 6-32 bolts (#111/#111A), washers (#38) and nuts (#37A)

\_\_\_\_ 8x, Board mount nylon standoffs hex 1-5/8" 4-40 w/ nylon nuts and screws, Keystone Electronics (~\$5-\$6)

Steering Assembly (built out of Meccano/Erector pieces)

\_\_\_\_ 2x, Mounting U bracket, 3x2 holes (#46A) w/ 2x 6-32 bolts (#111/#111A) and nuts (#37A)

\_\_\_\_ 8x, Large 3x2/1 bracket (4x #51D), straight 2+3 hole (2x #6) and straight 6 hole (2x #4) pieces

\_\_\_\_ 2x, Bolt (#147D) w/ 6x washers (#38) and 2x black grooved rubber stoppers (#38A)

\_\_\_\_ 8x, Black 6-32 hex screws (#37B) and nuts (#37A)

\_\_\_\_ 4x, Axles (2x 3-inch and 2x 2-inch) w/ 8x clear rubber stoppers (#59B) and washers

Boards

\_\_\_\_ 2x, Soldered sensor board (priceless) (*given for Lab 1*)

\_\_\_\_ 1x, Soldered motor board (priceless)

Battery ([www.all-battery.com](http://www.all-battery.com))

\_\_\_\_ 1x, Tenergy 11.1V 2200mAh 25C Li-Poly Battery Pack w/ Deans Connector (\$39.99 w/ charger)

\_\_\_\_ 1x, Tenergy TN267 LiPO/LiFe Battery Pack Balance Charger

Rear-wheel drive train

\_\_\_\_ 2x, MOT1050, Geared DC motor (\$7.95 each)

\_\_\_\_ 2x, Aluminum wheel adapter/hub for 5mm shaft, #2673, [www.pololu.com](http://www.pololu.com) (\$4.95 each)

\_\_\_\_ 2x, Scooter/skate wheel 70x25mm, black, #3272, [www.pololu.com](http://www.pololu.com) (\$2.49 each)

Front-wheel steering

\_\_\_\_ 1x, 157067, 14500 RBT Geared servo motor w/ horn, 4x springs, 2x screws/nuts (\$17.95 each)

\_\_\_\_ 2x, Tires, 3inch, neoprene foam tread (\$7.25 per pair)

Ultrasonic sensors

\_\_\_\_ 2x, Parallax.com Ping))) or SuntekStore.com HC-SR04, \$29.95 or \$2.99

\_\_\_\_ 2x, Jumper wires, female to open or female to female

\_\_\_\_ 2x, Ultrasonic mounting bracket (\$1.27 each on eBay)

IR sensors

\_\_\_\_ 2x, GP2Y0A21YK IR range sensor, SEN39046P (\$13.95 each including cable)

\_\_\_\_ 2x, Grove connector cable for IR sensor

Laser-ranging sensors

\_\_\_\_ 2x, VL53L0X laser-ranging sensor, Alientek, ATK-VL53L0X breakout board (\$14.95 each)

\_\_\_\_ 2x, Jumper wires, 4-pin

\_\_\_\_ 4x, Mounting nuts and screws

Optional sensors, motors and other components

\_\_\_\_ 2x, SMS-189, mini-snap-action switch or SMS-174, mini-action roller switch

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Other Meccano/Erector pieces (from Erector Special Edition Anniversary Set, 643 pieces, \$109.99 each)

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