Lab 0 – Collect Materials

## Learning Outcomes:

* Learn about the AutonoMouse Project
* Collect Materials for the project

## Background:

The AutonoMouse project was made for BYU’s ECEN 191 New Student Seminar. Students taking the course will choose between a variety of projects the AutonoMouse being one of them.

## Getting Credit

You will learn many things during this course. Including: breadboards, LEDs, pulse width modulation, circuit boards, microcontrollers, servos, etc. There are a total of 7 labs, this being the first one. For each lab you will generally follow an outline how to build a certain part of the AutonoMouse and then submit a Learning Suite quiz for credit. **Make sure to submit the Learning Suite quiz or you will not receive credit for completing a lab.**

## Getting Help

If you are stuck at any point along this course, and you probably will be, make sure to take advantage of the resources available to you. A frustrating bug in a computer program or a flaw in your design can be solved in a few minutes by getting help than by trying to do it alone.

One place is the student workstations next to the Experiential Learning Center (ELC) room 413 in the Clyde building. The shop assistants are occasionally available to answer questions and the other students there can be a valuable resource. \

Another place is your student study groups. Ask your friends to help you and make sure to help them.

## Getting Materials

You are required to buy the following materials for this course:

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| |  |  |  |  | | --- | --- | --- | --- | | ESP32 w/RC | | | | | Part | Quantity | Unit Price | Subtotal | | Zip ties | 3 | $0.03 | $0.09 | | ESP32 | 1 | $4.50 | $4.50 | | Switch-SPDT-BB | 1 | $0.06 | $0.06 | | Voltage Regulator (Q-7805c) | 1 | $1.65 | $1.65 | | 0.1 uF Ceramic Capacitors | 1 | $0.06 | $0.06 | | 0.33 uF Ceramic Capacitor | 1 | $0.06 | $0.06 | | 9V Battery | 1 | $1.25 | $1.25 | | Battery Cap | 1 | $0.44 | $0.44 | | Male header Pins | 6 | $0.02 | $0.12 | | Female Header Pins | 42 | $0.02 | $0.84 | | servos | 0 | $1.80 | $0.00 | | PCB | 4 | $0.40 | $1.60 | | Double Sided Foam Tape | 1 |  | $0.00 | | Sonar Sensor | 1 | $2.20 | $2.20 | | Laser Time | 2 | $0.06 | $0.12 | | Servos | 2 | $1.80 | $3.60 | | Micro usb to usb-A cord |  |  |  | | Acrylic? | 1 |  | $0.00 | |  |  | Total | $16.59 | |

Buy them from the electrical engineering shop. It will be much cheaper than any place you can find online and they know exactly which parts you need. While you’re there take your time to get acquainted with what services the shop offers.

## Learning Suite Quiz

Make sure to go online and submit the Learning Suite quiz associated with this lab.