

ENGR 130-05

DR. CONNIE

GREENHOUSE MATERIALS

Arduino Greenhouse Engineering Term Project

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RAW MATERIALS	COMPONENTS
5- 12inx19in aluminum L-brackets	water pump (controlled by moisture sensor)
1- 1inx11.9inx17.9in Styrofoam base	programmable fan (controlled by temperature sensor)
clear greenhouse plastic (6.5ft x 10ft)	temperature sensor
soil tablets	moisture sensor
beans	
double sided tape	
aquarium tubes	
batteries	
computer for coding each automated component	
Arduino application	
breadboard	

wires	
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INSTRUCTIONS:

1. Connect the aluminum L-brackets by screwing them together to build the frame of the greenhouse
2. Place the Styrofoam base in the bottom of the aluminum bracket structure to create a stable surface for the plants and organisms to be grown
3. Using double sided tape, secure the clear greenhouse plastic around the aluminum. Cutting the greenhouse plastic will be necessary to ensure a proper fit.
4. To code the components, use the breadboards, wires, and Arduino application. Make sure to test your codes and properly compile them all into your program.
5. After coding everything, place each component around and into the greenhouse (the moisture-controlled water pump and irrigation system and the temperature controlled fan)
6. Take the soil tablets and arrange them in the greenhouse
7. Add water to expand the tablets and then plant your seeds
8. Your prototype community greenhouse should be ready for demonstration! :)