

**Randall Fernandez**

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**CPE 301 - Shawn Ray**

## **Swamp Cooler Project Description**

**Video:** <https://youtu.be/6LzxGfKiCmk>

### **Constraints:**

**Temperature Range:** 16 C-21 C

- Water Level Minimum: 40
- Power: 9V to PSU, 9V to Arduino

### **Components:**

- Water Level Detection Sensor Module (1)
- LCD1602 Module with pin header (1)
- Power Supply Module (1)
- MEGA 2560 Controller Board (1)
- Button (1)
- Temperature and Humidity Module (1)
- Fan Blade and 3-6v Motor (1)
- Servo Motor SG90 (1)
- L293D Chip (1)
- Stepper motor (1)
- LED (1)

### **Libraries Used:**

- Servo, Liquid Crystal\_IC2, DHT, stdlib, Arduino
- LiquidCrystal\_IC2
- DHT

### **GitHub Project Link:**

- <https://github.com/randallfernandez/CPE301-Final-Project-Randall.git>

### **Specification sheets of Components**

#### **LCD1602 MODULE:**

- <https://www.openhacks.com/uploadsproductos/eone-1602a1.pdf>

#### **MEGA2560 Controller Board**

- <https://www.mouser.com/catalog/specsheets/ArduinoBoardMega2560.pdf>

#### **Servo Motor SG90**

- [http://www.ee.ic.ac.uk/pcheung/teaching/DE1\\_EE/stores/sg90\\_datasheet.pdf](http://www.ee.ic.ac.uk/pcheung/teaching/DE1_EE/stores/sg90_datasheet.pdf)

#### **Water Level Detection Sensor Module**

- <https://asset.conrad.com/media10/add/160267/c1/-/en/001485323DS01/datasheet-1485323-iduino-moisture-sensor-module-1-pcs-se045.pdf>

#### **Power Supply Module**

- [https://www.mouser.com/catalog/additional/Tamura\\_allproduct-en.pdf](https://www.mouser.com/catalog/additional/Tamura_allproduct-en.pdf)

#### **Temperature and Humidity Module**

- <https://www.mouser.com/datasheet/2/758/DHT11-Technical-Data-Sheet-Translated-Version-1143054.pdf>

#### **Button**

- <https://www.arduino.cc/documents/datasheets/Button.pdf>

**L293D Chip**

- <https://cdn-shop.adafruit.com/datasheets/l293d.pdf>

**LED**

- <https://www.arduino.cc/documents/datasheets/LEDRGB-L-154A4SURK.pdf>

**Stepper motor:**

- <http://eeshop.unl.edu/pdf/Stepper+Driver.pdf>