#include <Wire.h>

#include <LiquidCrystal\_I2C.h> //https://github.com/fdebrabander/Arduino-LiquidCrystal-I2C-library

LiquidCrystal\_I2C lcd(0x27, 16, 2);

int sensorPin = A0;

float volt;

float ntu;

void setup()

{

 Serial.begin(9600);

 lcd.begin();

 lcd.backlight();

}

void loop()

{

 volt = 0;

 for(int i=0; i<800; i++)

 {

 volt += ((float)analogRead(sensorPin)/1023)\*5;

 }

 volt = volt/800;

 volt = round\_to\_dp(volt,2);

 if(volt < 2.5){

 ntu = 3000;

 }else{

 ntu = -1120.4\*square(volt)+5742.3\*volt-4353.8;

 }

 lcd.clear();

 lcd.setCursor(0,0);

 lcd.print(volt);

 lcd.print(" V");

 lcd.setCursor(0,1);

 lcd.print(ntu);

 lcd.print(" NTU");

 delay(10);

}

float round\_to\_dp( float in\_value, int decimal\_place )

{

 float multiplier = powf( 10.0f, decimal\_place );

 in\_value = roundf( in\_value \* multiplier ) / multiplier;

 return in\_value;

}