Ahsanullah University of Science and Technology
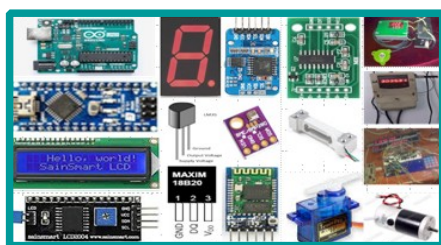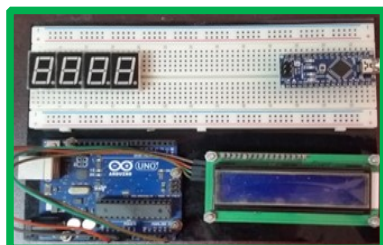## Department of Electrical and Electronic Engineering
141-142 Love Road, Tejgaon Industrial Area, Dhaka – 1208
01711602224, 01742513117, Website: www.aust.edu

Hands-on Training Course on
Microcontroller Based Embedded System Design for Industrial Applications using Arduino Learning Systems

Experiments to be conducted along with review of C/C++ Language and Library Files

Experiment – 1: Familiarization with the Operation and Programming of Arduino UNO Learning System

Experiment – 2: Building LM35 (analog)/ DS18B20 (digital) Sensor Based Thermometer

Experiment – 3: UART Port Based Serial Data Communication with application of Bluetooth Module

Experiment – 4: I2C Bus Based Serial Data Communication with the application of BME280 (temp, pressure, humidity) Sensor

Experiment – 5: SPI Port Based Serial Data Communication

Experiment – 6: Timer/ Counter Module Programming

Experiment – 7: PWM Signal Generation

Experiment – 8: Interrupt Structure

Experiment – 9: BME280/ LM35/ DS18B20, DS3231 RTC, and SDC Based Data Logger

Experiment – 10: System Design (Taxi Meter / Digital Weighing Machine / Prepaid Electrical Energy Meter)

For whom the course is designed?

1. Anybody with background in Digital Electronics and C Programming Language

2. University/ Polytechnic Teachers offering Microcontroller/ Embedded System/ Robotic courses using Arduino

3. Professional Engineers engaged in Industrial Instrumentation, Control, and Automation.

4. Senior level students of Engineering disciplines conducting research that involves Microcontroller and Programming

5. Students of Class VI to XII who are interested in Creative Engineering

Persons to be contacted

1. Prof. Dr. A.K.M. Ehtesanul Islam, Program Director, Mobile - 01711602224

2. Prof. Dr. Satyendra Nath Biswas, Program Coordinator, Mobile-01742513117

Additional Information

1. Duration/Timing of Training: 2 Weeks, 6pm – 8pm on Sunday to Thursday

2. Starting Date: 3 November 2019 (tentative)

Course Fee and Mode of Payment

Tk 5000/- (five thousand only) to be paid in any branch of **ONE BANK** in favor of A/ C No: **0125084401007**

After payment, send a scan copy of the deposit slip at this email: sbiswas@inuxmail.org

Following Training Materials will be provided to the Trainee

1. Arduino UNO Learning System

2. Arduino NANO Board

3. LM35 analog temperature Sensor

4. DS18B20 temperature sensor

5. 10xMale-to-female jumper wires

6. 6xCC7SD devices

7. 40xMale-to-male jumper wires

8. 4xPush Button switch

9. Assorted resistors

10. Laboratory Manual

11. Lab Khata and Pen