

ARDUINO *from* SCRATCH

C++ PROGRAMMING WITH MULTI LEARNING SHIELD

ONE-DAY HANDS-ON WORKSHOP (8 HOURS)

Workshop Overview

This hands-on workshop covers practical C++ programming with the Arduino Uno and Multi Learning Shield. Participants will learn microcontroller programming, hardware interfacing, digital I/O, and shift register control. The session concludes with building a **digital timer** project using a 4-digit 7-segment display.

Who Should Attend

- Beginners
- Technical Educators
- Hobbyists and STEM Enthusiasts

Course Content:

Session 1: Introduction to Hardware

Session 2: Digital Output: LED Control & Programming Macros

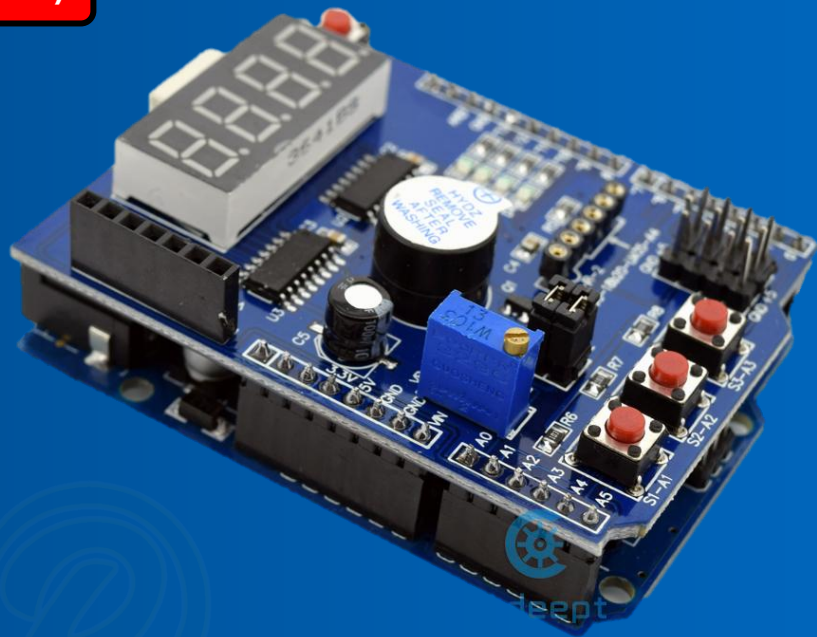
Session 3: Digital Input: Button Handling & Function Reusability

Session 4: Shift Register Fundamentals – 74HC595 Overview

Session 5: 4-Digit 7-Segment Display: Multiplexing Techniques

Session 6: Analog Input – Reading & Displaying on 7-Segment

Session 7: Mini Project: Digital Timer



Key Takeaways

- C++ coding for microcontrollers
- Practical hardware interfacing skills
 - Troubleshooting techniques
 - Hands-on project experience

REGISTER NOW & UNLOCK YOUR CREATIVITY

Date : 9th June 2025
Venue : AI Lab (Level 2, PTTA)
Trainer : Ts. Abd Rahim Kasiman

Faculty of Technical and
Vocational Education, UTHM