Introduction to Embedded Systems Using ARM Microcontrollers

Come join us for an intensive and practical workshop in embedded systems, designed for electronics engineers, software engineers, and other technical professionals.

The workshop includes a commercial-grade embedded systems development board (*Microchip SAM E70 Xplained Ultra*) with a 32-bit ARM microcontroller (*ATSAME70Q21*) plus a peripheral board (*Microchip I/O1 Xplained Pro*)*. **This $145 value + handbook is yours to keep!**

You will learn how to use the companion Integrated Development Environment (IDE) and the 32-bit C compiler to create your firmware. You will also learn basic methods of debugging.

We will be reviewing the overall concepts of microcontrollers, interfaces, and electronic components.

We will go over software vs. firmware, program structure, peripheral interfacing, and basic real-time considerations.

This one-day workshop is structured with a few hours of interactive lectures, and a few hours of hands-on experience with the hardware and software. **Lunch is included!**

> The student must provide their own computer with the IDE and C compiler pre-installed; both are available for free from the manufacturer.

The IDE and the C compiler work on updated versions of Windows, macOS, and several Linux variants, allowing you a choice in platforms.

Your instructors are **Jim Julian** and **Jay Morreale**, both with degrees in electrical engineering and decades of diverse commercial experience.

Get introduced to a new skill in just one day!

Presented in association with the IEEE North Jersey Section. ◆IEEE

What You Will Learn

- What embedded systems are, and what they are used for.
- The basic end-to-end process of designing an embedded system, from components to working firmware.
- Skills to troubleshoot an embedded system.

Prerequisites

Know A general understanding of electronics and components, computer concepts, interfaces, as well as basic experience in the C programming language.

Bring Portable computer, with the IDE and C compiler software pre-installed.

Interactive Lecture • Lunch Break • Hands-on Experience

Find out more: workshops.jimjulian.com
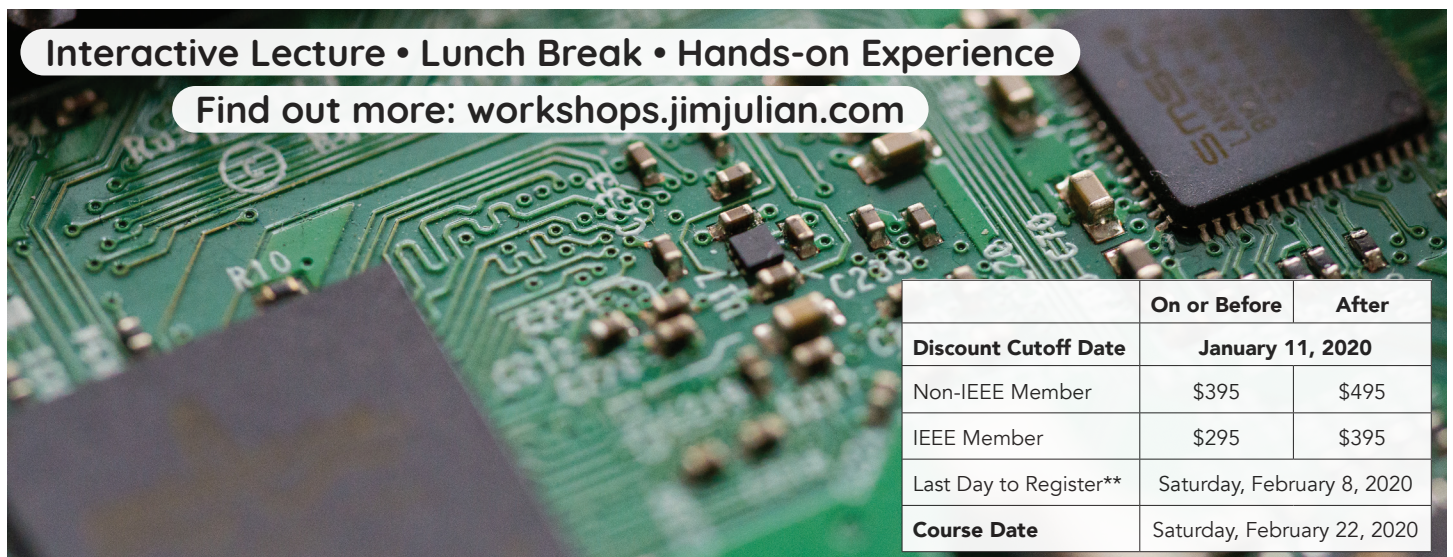
	On or Before	After
Discount Cutoff Date	**January 11, 2020**	
Non-IEEE Member	$395	$495
IEEE Member	$295	$395
Last Day to Register**	Saturday, February 8, 2020	
Course Date	Saturday, February 22, 2020	

*Included hardware is based on availability and is subject to substitution with similar items. **Last day for refunds.   TR-MK-101-02 ©2019