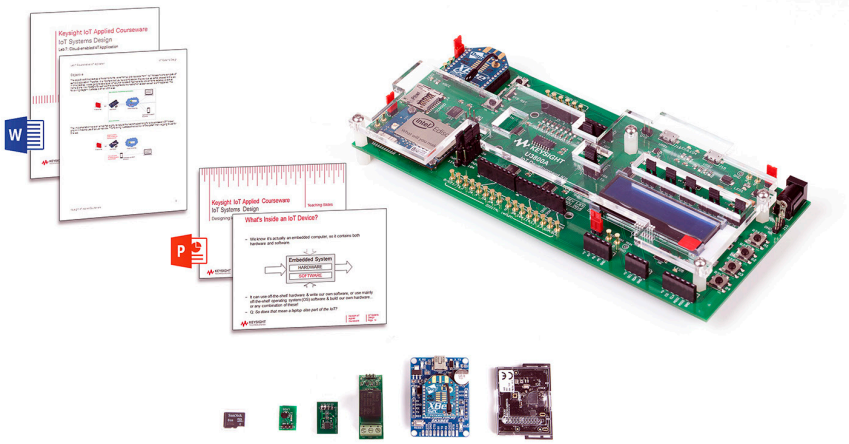
Product Fact Sheet

Keysight U3803A/04A IoT Systems Design Applied Courseware



The IoT Systems Design applied courseware is a ready-to-teach package on the subject of the Internet of Things (IoT), with the goal of providing students the ability to develop an embedded system with IoT capabilities. The courseware is designed as a resource for lecturers, and consists of teaching slides and a training kit.

- Targeted university subject: IoT systems, IoT fundamentals
- Targeted year of study: Second to final year undergraduates
- Prerequisites(s): Basic programming

Teaching Slides	Training Kit
Editable Microsoft PowerPoint slides	IoT development kit
Covers 36+ hours of classroom sessions	IoT sensor device
	XBee ZigBee kit
	Lab sheets (Microsoft Word) and model answers
	Problem-based learning assignments
	Covers 18 hours of lab sessions

Key features

- The IoT Systems Design applied courseware is designed for a full semester of teaching. Educators can use this complete solution to accelerate the set up of a new IoT-focused course.
- The courseware integrates hands-on industry-relevant experiences and real-world applications in IoT design and testing.
- The courseware material will be updated yearly for three years at no additional cost, allowing educators and students to keep pace with evolving IoT trends and technologies.
- The IoT development kit is based on a carrier board with Arduino UNO form factor and an add-on ZigBee® module.
- The IoT development kit allows students to experiment with WLAN 802.11, *Bluetooth*® Low Energy and ZigBee wireless connectivity.

Topics covered in the IoT Systems Design applied courseware

Teaching Slides	Lab Sheets	Problem-Based Assignments
Essential elements of IoT systems	Introduction to the IoT development kit	Smart street lamp
Enabling technologies for IoT systems	Introduction to the peripherals of the IoT development kit	Smart automobile
Fundamentals of embedded systems for IoT	Interfacing to IoT devices	
Connectivity for IoT	Digital communication protocols for IoT	
Designing IoT applications using embedded systems	Wireless sensor networks for IoT	
Introduction to cloud computing	Exploring cloud messaging protocol	
Case studies	Cloud-enabled IoT operation	

IoT Development Kit Characteristics

IoT Development Kit	
Dimensions	20 cm (w) x 8.5 cm (d) x 5 cm (h)
Compute module	Intel Edison (a dual-core, dual-threaded Intel Atom CPU at 500 MHz and a 32-bit Intel Quark microcontroller at 100 MHz)
RAM and flash storage	1 GB LPDDR3 PoP memory and 4 GB eMMC
Wireless communication	WLAN 802.11 a/b/g/n, *Bluetooth* LE (version 4.0), and ZigBee wireless connectivity
General	
Supply	6 to 12 V AC adapter (2 mm DC jack) USB port
Warranty	1 year 3 months for accessories

System and Installation Requirements

PC operating system	Windows 8 and 10 (64-bit)
Interface	USB (3 ports)

IoT Systems Design applied courseware ordering information

Product Number	Description
IoT Systems Design applied courseware	
U3803A	IoT Systems Design applied courseware, with training kit only
U3804A	IoT Systems Design applied courseware, with training kit and teaching slides

Standard shipped items (with training kit):

- Micro USB cable, 1 m (2 units)
- Mini USB cable, 1.2 m
- TI SensorTag kit
- XBee ZigBee kit
- Analog temperature sensor
- Digital temperature sensor
- Relay actuator
- Micro SD card

Recommended instruments	
34465A-DIG[1]	6½ digit, performance True*volt* digital multimeter with high-speed digitizing and advanced triggering
EDUX1002G	InfiniiVision 1000 X-Series education oscilloscope with waveform generator, 50 MHz, 1 GS/s, 2 analog channels

1. Other 34460 Series True*volt* DMMs models may be used, but 34465A-DIG is recommended as this model comes with a digitizing option for use with the IoT Sensors and Power Management courseware (available Fall 2017).

www.keysight.com/find/U3803A
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