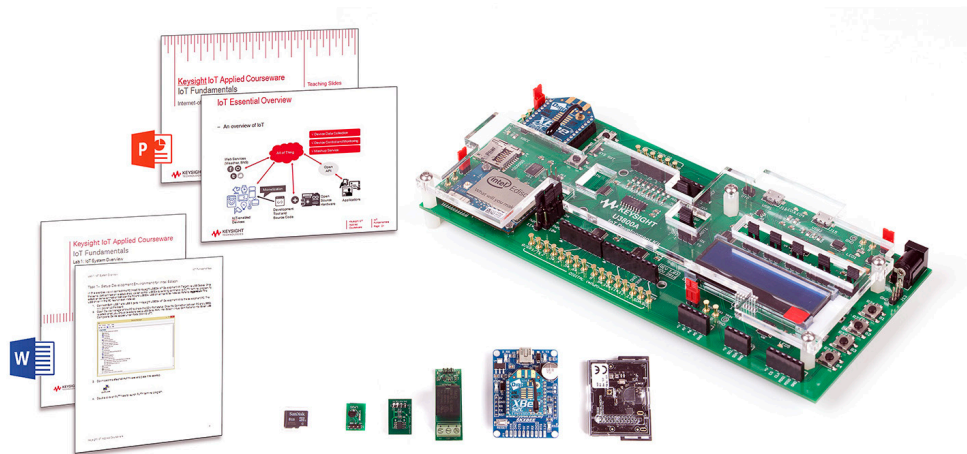


Keysight U3801A/02A IoT Fundamentals Applied Courseware



The IoT Fundamentals applied courseware is a ready-to-teach package focusing on the fundamentals of the Internet of Things (IoT). It introduces students to the IoT's architecture, technologies and ecosystems. 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

Key features

- The IoT Fundamentals 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.

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

Topics covered in the IoT Fundamentals applied courseware

Teaching Slides	Lab Sheets	Problem-Based Assignments
IoT essentials	IoT system overview	Smart home automation
Hardware for IoT	Exploring LAN/PAN connectivity protocols and understanding the purpose of an IoT gateway	Industrial 4.0 automation
Software for IoT	Exploring the Web-based Cloud Services for IoT	
IoT connectivity protocols	Exploring MQTT messaging protocol for IoT	
IoT application design essentials	Exploring data visualization and analytics	
From IoT to data analytics	Cloud-enabled IoT application	
Case studies		

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

System and Installation Requirements

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

IoT Fundamentals applied courseware ordering information

Product Number	Description
U3801A	IoT Fundamentals applied courseware, with training kit only
U3802A	IoT Fundamentals applied courseware, with training kit and teaching slides
Standard shipped items (with training kit):	
<ul style="list-style-type: none"> – 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 	

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