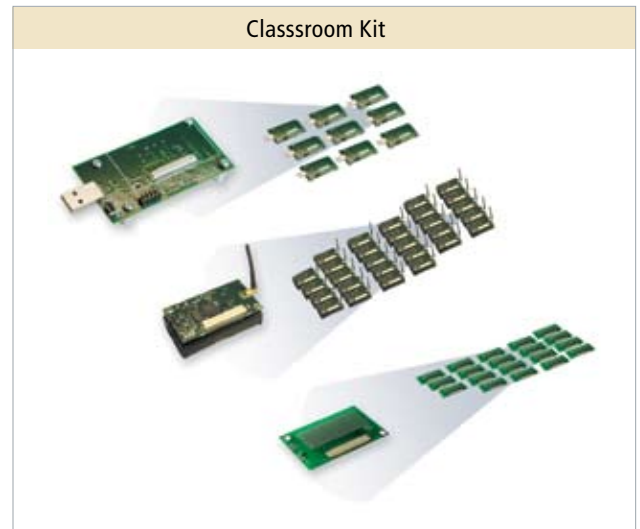


# CLASSROOM KIT

## FOR WIRELESS SENSOR NETWORKS

- Wireless Sensor Network Kit Designed Specifically for the Classroom or Teaching Lab
- Hardware & Software for Fast Lab Setup and Application Development
- Comprehensive Set of Teaching Materials
- MoteWorks™ Sensor Network Software Platform Based on TinyOS
- Reliable Networking Software for Self-healing, Self-forming Mesh Network (XMesh)
- Windows Based User Interface (MoteView)
- Easy Classroom Deployment
- Low-cost Introduction to Next Generation Technology



Crossbow actively supports academic programs in wireless and sensor technologies. Instructors in multiple departments are teaching various courses for wireless sensor technology based on Crossbow products.

Wireless sensor hardware and modules, in conjunction with the MoteWorks™ TinyOS based software platform, are ideal for the classroom. Classroom kits allow students to easily develop and build prototype sensor networks individually or in groups.

Crossbow's IRIS, MICAz and MICA2 motes are the hardware platform of choice for a large number of wireless sensor network research papers published globally, as well as large-scale testbed deployments.

The kit also provides access to in-depth teaching materials, based on Crossbow's world-renowned training program, which is proven with thousands of Crossbow's customers globally.

A copy of Ivan Stojmenovic's *Handbook of Sensor Networks* is included; it provides a broad coverage of WSN topics exploring various architectures and algorithms for applications, sensor training, security, and many other critical issues.

This integrated approach of hardware, mesh networking software and training materials allow educators to quickly develop and set up a comprehensive class and lab for leading edge wireless sensor network technology.

The classroom kits are beneficial for the typical teaching lab or sensor class project, getting students up and running quickly and economically. Students will benefit from comprehensive hands-on training involving all aspects of both the hardware and software applications.

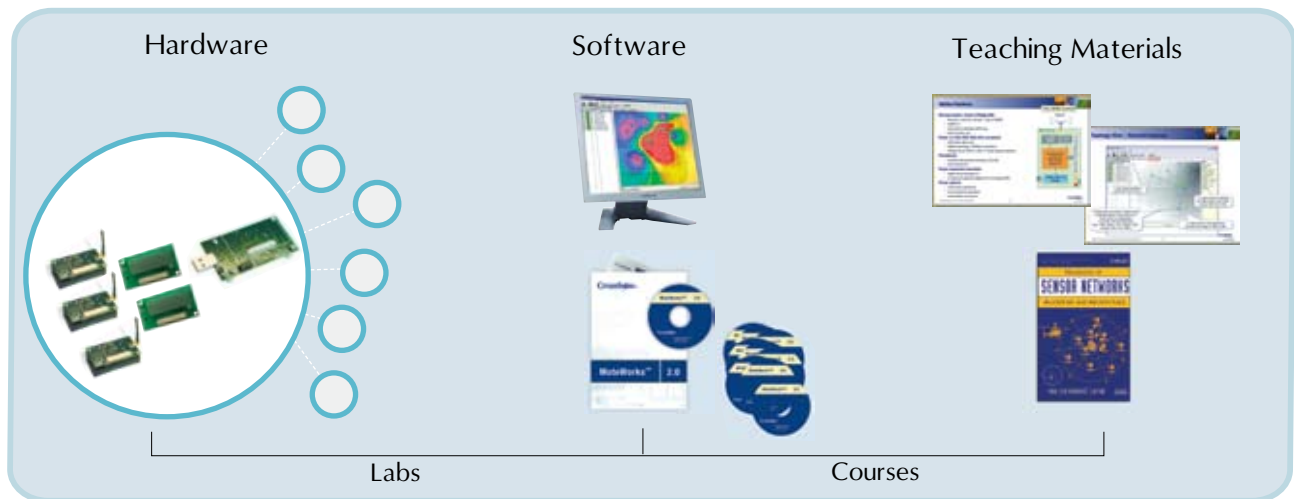
In addition to these standard kits, a variety of custom configurations are also available. Please contact Crossbow for additional details. Information on several prominent Universities which have programs dedicated to WSN is available at: [http://www.xbow.com/Industry\\_solutions/Academic\\_Programs.aspx](http://www.xbow.com/Industry_solutions/Academic_Programs.aspx)



### Ordering Information

Model	Description
WSN-EDU900CA	MICA2 Classroom Kit - 868/916 MHz
WSN-EDU2400CA	MICAz Classroom Kit - 2.4 GHz
WSN-EDU2110CA	IRIS Classroom Kit - 2.4 GHz

## Classroom Kit Architecture



### Hardware

#### Lab Station Equipment

##### a. Processor/Radio Board:

IRIS/MICA modules enable the low-power wireless sensor network measurement system, available in 868/916 MHz or 2.4 GHz.



##### b. Sensor Board:

MDA100 sensor and data acquisition board includes a precision thermistor, a light sensor/photocell and provides a general prototyping area.



##### c. USB PC Interface Board:

MIB520 Gateway provides a USB Interface for data communications.



#### Kit Contents

10 Lab Stations Include:

- 30 Processor/Radio Boards
- 20 Sensor Boards
- 10 Gateways
- 10 Seats MoteWorks License
- 1 Teaching Materials CD-ROM
- 1 Text Book

### Software

#### MoteWorks™

Development of custom sensor applications is enabled through Crossbow's MoteWorks™ software platform, included in the classroom kit.

**Sensor Devices:** Network stack (XMesh) and operating system, standards support (802.15.4), over-the-air-programming and cross development tools.

**Server Gateways:** Middleware for connecting wireless sensor networks to enterprise information and management systems (XServe).

**User Interface:** Client application for remote analysis and monitoring, management and configuration of the sensor network.

The Classroom kit includes one MWA-MoteWorks Academic License for the instructor with full email support and nine MWC-MoteWorks Classroom licenses for each student or groups of students (this license is not eligible for support).

### Teaching Materials

#### Curriculum Tools

Included in each classroom kit is a CD-ROM containing the files for the presentations used in our world-renowned training courses. These materials may be modified and integrated into lectures and labs as the course curriculum requires.

The included text book is the suggested reading for professors developing the course with theoretical and practical coverage and exercises. Please consult the website for additional options.

