



nanoHUB-U Special Edition

nanoHUB-U offers NEW courses on edX

Organic Electronic Devices

Starts February 12th, 2015**Join the 2,300+ students already registered!!!**

Organic electronic devices are quickly making their way into the commercial world, with innovative thin mobile devices, high-resolution displays, and photovoltaic cells.

Learn more about this highly promising technology, which is based on small molecules and polymers, and how these materials can be implemented successfully in established (e.g., organic light-emitting devices (OLEDs), organic photovoltaic (OPV) devices) and emerging (e.g., thermoelectric (TE) generators) organic electronic modules.

[Learn more](#)

Fundamentals of Nanoelectronics: Basic Concepts

Starts March 26th, 2015

The modern smartphone is enabled by a billion-plus nanotransistors, each having an active region that is barely a few hundred atoms long. Interestingly the same amazing technology has also led to a deeper understanding of the nature of current flow on an atomic scale.

This course aims to make these lessons from nanoelectronics accessible to anyone in any branch of science or engineering.

[Learn more](#)

ORGANIC ELECTRONIC DEVICES

The course is comprised of 5 units covering the following topics:

WEEK ONE:

Semiconductor Synthesis and Characterization

WEEK TWO:

Electronic Structure

WEEK THREE:

Charge Transport

WEEK FOUR:

Organic Photovoltaic Devices

WEEK FIVE:

Organic Light-Emitting Devices and Emerging Technologies

FUNDAMENTALS OF NANO ELECTRONICS: BASIC CONCEPTS

The course is comprised of 4 units covering the following topics:

UNIT ONE:

The New Perspective

UNIT TWO:

Energy Band Model

UNIT THREE:

What and Where is the Voltage

UNIT FOUR:

Heat & Electricity, Second Law and Information

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