



nanoHUB-U Special Edition

## nanoHUB-U offers NEW course on edX

### Fundamentals of Nanoelectronics: Basic Concepts

*Starts March 26th, 2015*

**Join the 2,200+ students already registered!!!**

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.



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

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

[Learn more](#)

### More nanoHUB-U courses

- [Nanoscale Transistors](#)
- [Nanophotonic Modeling](#)
- [Thermal Energy at the Nanoscale](#)
- [Thermoelectricity: From Atoms to Systems](#)



### Useful Resources



**Semiconductor Device**

#### Physics

Educational resources including complete courses and seminars on specialized topics

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**Band Structure Lab**

#### Simulation Tool

Compute the electronic and phonon structure of various materials in the spatial configuration of bulk, quantum wells, and wires

[Go to tool](#)

### The Role of Graphene in Semiconductor Technologies

Online presentation by Dr. Shaloo Rakheja

[Watch presentation](#)

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