Lessons from Nanoscience



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More than 50 years of research and development have created the sophisticated technologies that have shaped the world we live in. The transformation of engineering education from the practice-driven vacuum tube era to our science-driven semiconductor era played an important role in this success. Today we face new challenges in educating students, engineers, and applied scientists for a new era of electronics. Engineers will continue to need a deep understanding of their specialty, but they now also need a much broader understanding of science and technology than in the past. They need to be comfortable working from the atomic scale to the macroscale – from the materials and devices level to the system level. Lessons from Nanoscience aims to bring new approaches and new ways of thinking to materials, devices, and systems. The goal is to re-think the way we teach these topics so that working from the nanoscale to the system scale is seamless and intuitive. The Lessons from Nanoscience lecture notes series is one component of an ambitious educational initiative that includes free, online short courses offered through <u>nanoHUB-U</u>.

Lessons from Nanoscience Lecture Notes may:

- Treat fundamental concepts in a way that seamlessly connects the nanoscale to the macroscale
- Provide starting points for those just entering new fields of science or technology
- Discuss techniques once restricted to specialists that are now becoming widely used.

Lessons from Nanoscience Lecture Notes are:

- Short (150-350 pages)
- Broadly accessible without a long set of pre-requisites.
- Published by World Scientific in low cost paperback versions.

Authors who share our vision for an exciting new era of electronics driven by new approaches to education are invited to contact us with their ideas and submit a <u>Prospectus</u>.

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* Online courses based on these volumes are available at <u>nanoHUB-U</u>

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