



The Ohio State University I-SMART: Integrated Curriculum for Smart Power Engineering

Project Description

The Ohio State University (OSU) is developing courses and web-enabled distance learning systems to educate next-generation engineering students and electric power engineers from power companies and manufacturers. The I-SMART curriculum will bridge the gap between basic education for the electric power sector and the needs of the Smart Grid, such as power electronics, distributed control, networks and communications, sustainable energy, clean coal technology, high voltage engineering, and game theory-based policy and pricing. OSU will use its novel Hardware-in-the-Loop-based Virtual Smart Grid Test Platform as a training tool to simulate Smart Grid sub-systems. As a partner, American Electric Power will use their gridSMARTSM facilities for demonstrations and tours, and will provide expertise in course development.

Goals/Objectives

- Educate electric power engineers through the interdisciplinary I-SMART curriculum
- Train engineers from the electric power sector through short courses adapted from the I-SMART curriculum
- Train K-12 teachers through hands-on summer workshops and by providing materials for the classroom
- Promote energy and environment consciousness at the university level

Benefits

- I-SMART certified students will graduate work-force ready into newly created jobs in the electric power industry
- 150 professional engineering jobs will be retained through training on the new power grid technology
- Teachers will have the knowledge to increase awareness of Smart Grid careers
- Ancillary jobs will be created in business, accounting, and management in support of the increased number of engineering jobs



CONTACTS

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PARTNERS

American Electric Power
Opal RT

PROJECT DURATION

5/13/2010– 5/13/2013

COST

Total Project Value
\$3,748,546

DOE/Non-DOE Share
\$2,499,939/\$1,248,607

PROJECT LOCATION

Ohio

CID: OE0000402

Managed by the National Energy Technology Laboratory for the Office of Electricity Delivery and Energy Reliability

