Use of Physical and Computer Models to Enhance Learning for Nuclear Power Plant Design and Operation

Executive Summary

This program will introduce two two-semester senior-level and graduate course sequences into the engineering curriculum at the University of Hartford. These two courses will be:

1. ME 434/534 *Fundamentals of Nuclear Engineering* – This one-semester, three-credit course will use classroom lectures to introduce the topics of Nuclear Physics, Radiation, Reactor Theory and Design, and Operation.

2. ME 435/535 *Nuclear Applications for Power Engineering (NAPE)* – This one-semester, four-credit course will use a combination of classroom lecture and laboratory examples (physical and computer models). Both the lectures and models will focus on the design and operation of power reactors.

Both of the courses listed above will be offered as first-year graduate courses within our Mechanical Engineering curriculum. The courses will be co-listed and taught at the same time as the undergraduate course. Obviously, additional requirements will be added to the graduate level, including additional special topics and/or semester-long research topics with detailed reports.

The benefits from these course offerings will be an expansion of students exposed to the fundamentals of nuclear engineering. These students will be primed and ready to enter the burgeoning nuclear industry.

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