NE 611: Reactor Applications Virtual Laboratory
Spring 2013

NE 611. Reactor Applications Virtual Laboratory. (1) II. Reactor virtual experiments on various reactor applications, including neutron radiography, prompt-capture gamma-ray neutron activation analysis, and . Two hours lecture and one virtual laboratory experiment per week. Pr.: NE 500.

Textbook: None

Instructors:

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Schedule:	18 March – 10 May 2013 Lectures and experiments on-line
Evaluation:	Lab reports 90% Participation 10%
Prerequisites by Topic:	Knowledge of elementary nuclear physics; understanding of basic radiation detectors
Course Objectives:	The basic objective is to engage the student in learning about the use of nuclear reactors for various applications. After successfully completing the course, the student will be able to: 1. describe and understand fundamental reactor physics experiments. 2. analyze data to estimate material properties from measurements using a nuclear reactor as a radiation source. 3. understand basic reactor operation. [a, j]
Topics Covered:	1. Neutron Radiography (1 week) 2. Prompt gamma-ray neutron activation analysis (1 week) 3. Neutron Activation Analysis (1 week)
Contribution to Professional Component:	This is an elective nuclear engineering course that deals with experiments involving applications of nuclear reactors used as radiation sources. This course prepares students to perform experiments, analyze data, and prepare laboratory reports.
Prepared by:	William L. Dunn, 1/27/2013

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