



**Reactor Applications Virtual Lab
UEA 610&610G**

Prerequisites: Knowledge of elementary nuclear physics; understanding of basic radiation detectors.

Description: Reactor Applications Virtual Laboratory. Reactor virtual experiments on various reactor applications, including neutron radiography, prompt-capture gamma-ray neutron activation analysis. Two hours lecture and one virtual laboratory experiment per week.

Instructor

Steven Biegalski, University of Texas—Austin, biegalski@mail.utexas.edu

Required Text

None

Course Description and Goals

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

Topics

1. Neutron Radiography
2. Prompt gamma-ray neutron activation analysis
3. Neutron Activation Analysis

This is an elective nuclear engineering course that deals with experiments involving applications of nuclear reactors used as radiation sources. This course prepares student to perform experiments, analyze data, and prepare laboratory reports.

Students with Disabilities

The University of Texas at Austin provides, upon receipt, appropriate academic adjustments for qualified students with disabilities. For more information:

Office of the Dean of Students

471-6259, 471-4641 TDD

College of Engineering, Director of Students with Disabilities

471-4321