Reactor Physics Refresher

Course Outline 2026 July

INSTRUCTORS:

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COURSE DATES:

Lectures: 2026 July 4-5

COURSE OBJECTIVES:

To present many of the ideas, concepts, and information which will be needed in the course UN0802, Reactor Physics. The Refresher can also help to attain a higher level of competence in areas of weakness or in areas not used much since university days.

COURSE OUTCOMES:

On the successful completion of the course, students should be able to start the Reactor Physics course, UN0802, on a solid footing.

STUDY MATERIALS:

Course presentation slides

Textbook: Introduction to Nuclear Engineering (fourth edition)
J.R. Lamarsh & A.J. Baratta
Pearson, 2017
ISBN-10: 0134570057
ISBN-13: 978-0134570051

Additional Reading: The Essential CANDU - a textbook about the CANDU nuclear reactor (https://www.unene.ca/essentialcandu/)

TOPICS COVERED:

1. The Atomic Nucleus
2. Radioactivity
3. Interaction of Neutrons with Matter

4. Fission and Nuclear Reactors
5. Basic Mathematics for Doing Physics Calculations

6. DELIVERY FORMAT AND ATTENDANCE:

This course will be delivered **entirely online** through distance education. Lectures will be conducted via Zoom.

To attend online lectures, students must be physically located in Canada. Online attendance from outside of the country is not possible. Likewise, lecture recordings are only accessible from within Canada.