

Course Overview

This CNS course will present an extensive overview of the important disciplines in CANDU reactor technology and safety. The course provides an introduction to the basic design, technology, and operation of nuclear reactors. It will also present the major systems in a nuclear plant, as well as the important CANDU reactor safety principles and systems. How to prepare and execute safety analysis to meet licensing demands will also be discussed.

The CNS is presenting this course to enhance the professional and technical capabilities of its members (and non-members) working in, or interested in, the nuclear industry. The course is ideally suited for beginning professionals, but also beneficial to experienced professionals. Come broaden your nuclear knowledge beyond your specific area of work and your own area of expertise.

*This course is eligible for Continuing Education Units in the context of the **Engineering Institute of Canada** Continuing Education program.*

Continental breakfast, buffet lunch, and coffee breaks are provided each day. There will also be a banquet on the second evening of the course, with an after-dinner speech highlighting a timely topic in the Canadian Nuclear industry.

Tentative topics to be covered in the course:

- CANDU Design
- Thermalhydraulics Fundamentals
- Reactor-Physics Fundamentals
- Radiation Safety
- Nuclear Steam Supply System
- CANDU Fuel Fundamentals
- Fuel & Fuel-Channel Safety
- Role of Nuclear Regulation Safety
- Analysis and Trip Coverage
- CANDU Safety Design
- Experiments and Computer Codes

Registration

Please register on-line via the link on the **Course web page**, which you can reach directly by clicking [here](#) or via the [CNS web site](#).

The registration fees are shown below, and include **13% HST** (HST # 870488889RT)

Early-Bird Rate

(Register by 2024 February 9)

- CNS Member:** \$1280.00
[Must be a CNS member in good standing]
- Non-CNS Member:** \$1370.00
- Full-Time Student (CNS member) or
CNS Retiree Member:** \$560.00

Regular Rate

(Register after 2024 February 9)

- CNS Member:** \$1380.00
[Must be a CNS member in good standing]
- Non-CNS Member:** \$1470.00
- Full-time student (CNS member) or
CNS retiree member:** \$610.00

The registration deadline is **2024 March 15** or earlier if course capacity is reached

For registration information, please communicate with:
CNS Office
Toronto, ON
Tel: 416-977-7620
e-mail: cns_office@cns-snc.ca

HOTEL ACCOMMODATION

A very special room rate per night of \$209 + Tax is available at the Courtyard by Marriott Downtown Toronto, but to receive this special rate you must book by **2024 February 22**; [click here](#) (if clicking does not work, please try copying the link directly to your browser) . **Book early to avoid disappointment!** Or call 1-800-847-5075 and request the CNS Course Group Booking.

CNS CANDU REACTOR TECHNOLOGY & SAFETY COURSE



Organized by:
**The Canadian Nuclear Society
Nuclear Science & Engineering
Division**

**2024 March 18-20
(Mon-Wed)**

**Courtyard by Marriott Downtown
Toronto
475 Yonge St.
Toronto, ON
M4Y 1X7**

Course contact (not for registration):

B. Rouben

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**CNS CANDU Reactor
Technology & Safety Course
2024 March 18-20
Courtyard by Marriott Downtown
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475 Yonge St.
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M4Y 1X7**

Objectives of the course

- To provide an introduction to CANDU technology and reactor safety
- To present safety-analysis principles
- To provide an overview of the major CANDU systems
- To foster nuclear safety culture
- To network with colleagues in the industry

Monday, March 18

07:30	<u>Continental Breakfast</u>
08:20	Welcome & Opening Remarks W. Shen (CANDU Owners Group)
08:30	CANDU-Design Overview B. Rouben (12 & 1 Consulting)
10:00	Break
10:20	Thermalhydraulics Fundamentals G. Harvel (Ontario Tech University)
12:00	Lunch
13:00	Fundamentals of CANDU Reactor Physics W. Shen (CANDU Owners Group)
14:30	Break
15:00	Ionizing Radiation and Reactor Safety R. Khaloo (Candu Energy Inc.)
16:30	End of Day-1 Lectures

Tuesday, March 19

07:30	<u>Continental Breakfast</u>
08:30	Nuclear Steam Supply System B. Rouben (12 & 1 Consulting)
10:00	Break
10:30	CANDU Fuel Fundamentals M. Piro (McMaster University)
12:00	Lunch
13:00	Fuel & Fuel-Channel Safety Y. Guo (Canadian Nuclear Safety Commission)
14:30	Break
15:00	CANDU Regional/Neutronic Overpower Protection W. Shen (CANDU Owners Group)
16:30	End of Day-2 Lectures
18:00	Host Bar
18:30	Banquet With Guest Speaker Dr. Muhammad Aamir (Ontario Power Generation) – “OPG Electrifying Life: Nuclear Refurbishments and New Builds”

Wednesday, March 20

07:30	<u>Continental Breakfast</u>
08:30	Role of Nuclear Regulation and its Evolution to Enable Advanced Technologies A. Viktorov (Canadian Nuclear Safety Commission)
10:00	Break
10:30	Safety Analysis and Trip Coverage, Vincent Lau (Candu Energy Inc.)
12:00	Lunch
13:00	Fuel, Fuel Channel, and Containment Experiments and Computer Codes T. Nitheanandan (Canadian Nuclear Safety Commission)
14:30	Break
15:00	CANDU Safety Design V.G. Snell (VGSSolutions)
16:30	Closing remarks B. Rouben (12 & 1 Consulting)
16:40	End of Course