



A.N.T. International Academy

ONLINE EDUCATION

Fuel Introduction

COURSE DESCRIPTION

This overview course gives an introduction to Fuel Material and will provide engineers/managers with the necessary background information to understand more complicated fuel material information. The course involves watching recorded lectures and participating in an online assessment (test).



The lectures can be accessed at times convenient for practicing engineers and managers. Assessment are done online, with an understanding of the current material (i.e., 70% required correct answers). After passing the test, a certificate will be issued to the student.

The content is described more in the [Appendix](#).

COURSE MATERIAL

The course material was developed by A.N.T. International and consists of modified/edited earlier recorded A.N.T. International Seminar.

AUTHORS/LECTURERS

The authors/lecturers of the reports and lectures, World Class Experts in their fields, are as follows:

Charles Patterson, and Peter Rudling.

[*Read more about the Experts*](#)

COURSE DURATION

- Lectures: 16 h
- 1 Test: 1 h

The listed time for the lectures is the actual running time. More time may be needed to digest the information provided in this course.

CERTIFICATE

You will automatically receive an email with your certificate that you can print or share on social media. If you need a printed certificate, please don't hesitate to contact us and we can send it to you via regular mail. You reach us at support@antinternational.com.

TRY THIS COURSE FOR FREE!

All of our currently available courses have selected content you can access completely free of charge. Click the button to the right, select the course you would like to try out and sign up!

[CLICK HERE TO SIGN UP](#)

CONTACT

For more information and/or an offer welcome to contact us at sales@antinternational.com

Please also visit our website for the latest updated information, www.antinternational.com



SUBSCRIBE TO OUR MAILING LIST

No spam, only useful information to our customers about new products, special offers and more!

[SUBSCRIBE HERE!](#)

Appendix: Course outline and topics covered

1) FUEL CYCLE, REACTOR/FUEL DESIGN

- 1.1 Fuel Cycle
- 1.2 Reactor Design
- 1.3 Fuel Suppliers
- 1.4 Functions of Fuel Assembly Components
- 1.5 Fuel Assembly Materials
- 1.6 PWR Fuel Design Specifics
- 1.7 VVER Fuel Design Specifics
- 1.8 BWR Fuel Design Specifics

2) REACTOR SAFETY

- 2.1 Reactor Safety

3) FUEL DESIGN AND DESIGN CRITERIA

- 3.1 Mechanical Design Criteria
- 3.2 Design Verification and Fuel Performance Codes
- 3.3 Treatment of Uncertainty
- 3.4 Thermal-Hydraulic Criteria
- 3.5 Nuclear Design Criteria

4) FUEL PERFORMANCE DURING NORMAL OPERATION, ACCIDENT CONDITIONS AND INTERIM DRY STORAGE

- 4.1 Irradiation Effects on Fuel
- 4.2 Irradiation Effects Structural Materials
- 4.3 Irradiation Effects in Water
- 4.4 Fuel Performance During Normal Operation and AOO
- 4.5 Fuel Reliability
- 4.6 Design Basis Accidents
- 4.7 Dry Storage Requirements

5) CURRENT FUEL PERFORMANCE ISSUES

- 5.1 Fuel Performance Issues



A.N.T. INTERNATIONAL®

www.antinternational.com

Advanced Nuclear Technology International,
Spinnerivägen 1, Fack 5035, SE-448 50 Tollerød, Sweden. Phone: +46 (0)31-88 16 00.
info@antinternational.com www.antinternational.com