



Out of core nuclear fuel management: front end

This course is part of [Nuclear fuel management: a practical approach Specialization](#)



Instructor: [Juan Luis François Lacouture](#)

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5 modules

Gain insight into a topic and learn the fundamentals.

5.0 ★

(20 reviews)

Intermediate level

Some related experience required

1 week to complete

at 10 hours a week

Flexible schedule

Learn at your own pace

Skills you'll gain

Process Engineering

Natural Resource Management

Manufacturing Processes

Energy and Utilities

Engineering Calculations

Manufacturing and Production

Materials science

Environment and Resource Management

Chemical Engineering

Production Process

Chemistry

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Details to know



Shareable certificate

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Assessments

7 assignments



Taught in English

See how employees at top companies are mastering in-demand skills





Build your subject-matter expertise

This course is part of the [Nuclear fuel management: a practical approach Specialization](#). When you enroll in this course, you'll also be enrolled in this Specialization.

- Learn new concepts from industry experts
- Gain a foundational understanding of a subject or tool
- Develop job-relevant skills with hands-on projects
- Earn a shareable career certificate

There are 5 modules in this course

You will be able to recognize and describe the basic principles of the different steps of the front end of the fuel cycle, will be capable to find updated information and knowledge about the subject of study and will have the skills to perform basic calculations of the front end of the nuclear fuel cycle.

Introduction to the nuclear fuel cycle

Module 1 • 3 hours to complete

[Module details](#) ^

What's included

13 videos • 3 readings • 2 assignments

[Hide info about module content](#) ^

13 videos • Total 68 minutes

Welcome • 3 minutes

Introduction • 3 minutes

Start of nuclear fuel cycle • 5 minutes

Uranium resources • 6 minutes

Thorium • 6 minutes

Integrated nuclear fuel cycle system • 2 minutes

Uranium database tab • 7 minutes

Deposit models tab • 4 minutes

Statistic tab • 4 minutes

Statistic tab. Part 2 • 8 minutes

Country report • 4 minutes

Statistic tab chart • 6 minutes


Thorium database • 4 minutes

3 readings • Total 30 minutes

Uranium deposits • 10 minutes

Resources of nuclear fuel • 10 minutes

Thorium • 10 minutes

 2 assignments • Total 90 minutes

Assessment 1 • 45 minutes




Practical Assessment 1 • 45 minutes

Mining and Milling, Conversion of nuclear fuel


[Module details](#) ^

Module 2 • 1 hour to complete

What's included

 2 videos  2 readings  1 assignment

Hide info about module content ^

 2 videos • Total 12 minutes


Uranium mining • 6 minutes

Uranium milling and conversion • 5 minutes

 2 readings • Total 20 minutes

Uranium mining • 10 minutes

Uranium miling • 10 minutes

 1 assignment • Total 30 minutes




Assessment 2 • 30 minutes

Enrichment of Nuclear Fuel


[Module details](#) ^

Module 3 • 1 hour to complete

What's included

 4 videos  2 readings  1 assignment

Hide info about module content ^

 4 videos • Total 23 minutes

Uranium enrichment • 4 minutes

Uranium enrichment. Part 2 • 5 minutes


Front end facilities • 5 minutes

Front end facilities. Part 2 • 8 minutes

 2 readings • Total 20 minutes

Uranium enrichment • 10 minutes

Uranium enrichment. Part 2 • 10 minutes

 1 assignment • Total 45 minutes




Assessment 3 • 45 minutes

Nuclear Fuel Fabrication

[Module details](#) ^

Module 4 • 2 hours to complete

What's included

 3 videos  2 readings  2 assignments

Hide info about module content ^

 3 videos • Total 15 minutes

Fuel fabrication • 6 minutes


Fuel fabrication. Part 2 • 3 minutes

Front end facilities • 5 minutes

 2 readings • Total 20 minutes

Fuel fabrication • 10 minutes

Fuel fabrication. Part 2 • 10 minutes

 2 assignments • Total 105 minutes

Practical assignment 2 • 45 minutes




Assessment 4 • 60 minutes

Case of study

Module 5 • 2 hours to complete

[Module details ^](#)

What's included

 1 video  2 readings  1 assignment

Hide info about module content ^


 1 video • Total 8 minutes

Calculate material balance associated with front end • 8 minutes

 2 readings • Total 20 minutes

Material balance in the front-end of the nuclear fuel cycle • 10 minutes

MOOC credits (spanish) • 10 minutes

 1 assignment • Total 120 minutes

Front-end case study • 120 minutes



Earn a career certificate

Add this credential to your LinkedIn profile, resume, or CV. Share it on social media and in your performance review.

Instructor

Instructor ratings  5.0 ★ (6 ratings)



Juan Luis François Lacouture

Universidad Nacional Autónoma de México

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BS

★ 5 · Reviewed on Oct 9, 2025

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MK

★ 5 · Reviewed on Jul 10, 2025

Great opportunity for me to learn advance nuclear physics material.

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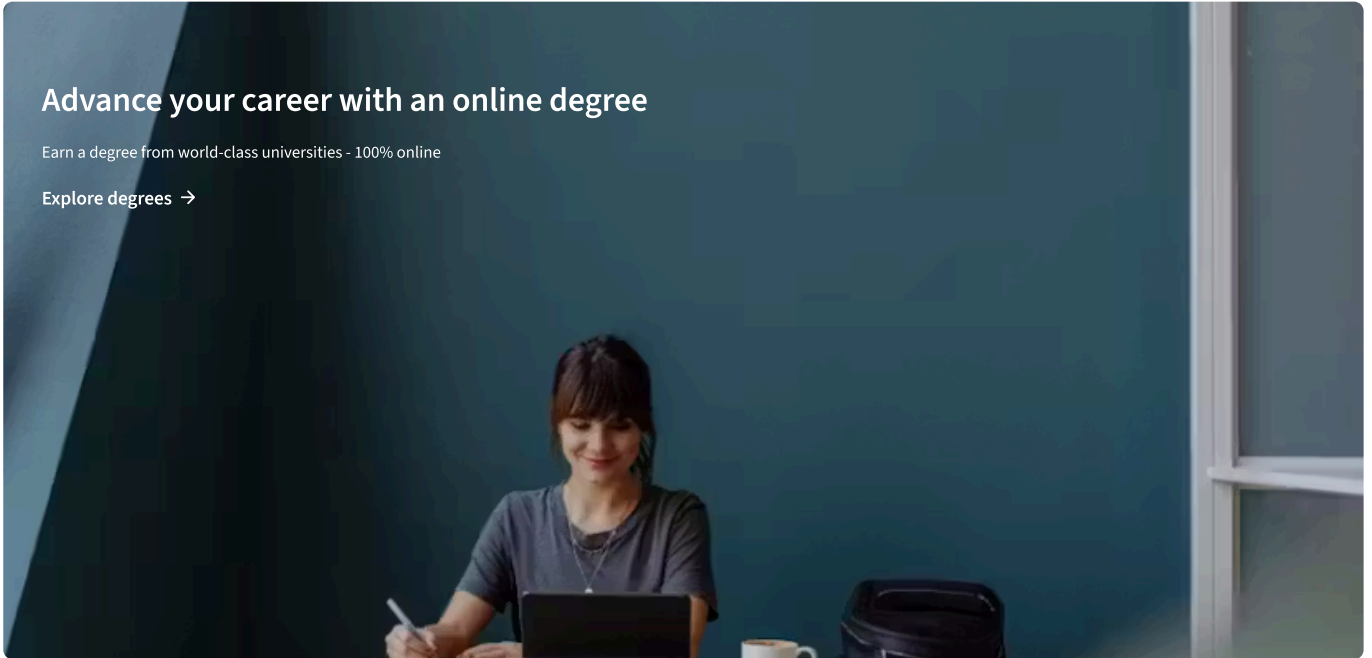
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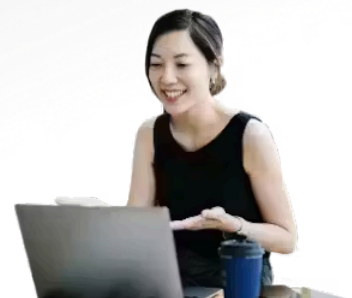
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Frequently asked questions

^ When will I have access to the lectures and assignments?

To access the course materials, assignments and to earn a Certificate, you will need to purchase the Certificate experience when you enroll in a course. You can try a Free Trial instead, or apply for Financial Aid. The course may offer 'Full Course, No Certificate' instead. This option lets you see all course materials, submit required assessments, and get a final grade. This also means that you will not be able to purchase a Certificate experience.

^ What will I get if I subscribe to this Specialization?

When you enroll in the course, you get access to all of the courses in the Specialization, and you earn a certificate when you complete the work. Your electronic Certificate will be added to your Accomplishments page - from there, you can print your Certificate or add it to your LinkedIn profile.

^ Is financial aid available?

Yes. In select learning programs, you can apply for financial aid or a scholarship if you can't afford the enrollment fee. If fin aid or scholarship is available for your learning program selection, you'll find a link to apply on the description page.

🔗 More questions
[Visit the learner help center](#)

Financial aid available, [learn more](#)

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Data Analytics
Digital Marketing
English Speaking
Generative AI (GenAI)
Microsoft Excel
Microsoft Power BI
Project Management
Python

Certificates & Programs

Google Cybersecurity Certificate
Google Data Analytics Certificate
Google IT Support Certificate
Google Project Management Certificate
Google UX Design Certificate
IBM Data Analyst Certificate
IBM Data Science Certificate
Machine Learning Certificate
Microsoft Power BI Data Analyst Certificate
UI / UX Design Certificate

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Examples of Strengths and Weaknesses for Job Interviews
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