ETH-531

Nuclear computations lab

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Cursus	Sem.	Type
Nuclear engineering	MA3	Obl.

Language of teaching	English
Credits	3
Session	Winter
Semester	Fall
Exam	During the semester
Workload	90h
Weeks	14
Hours	**3 weekly**
Courses	1 weekly
Exercises	2 weekly
Number of positions	

Remark

Cours donné par EPFL à PSI-Villigen

Summary

To aquire hands-on experience with the running of large computer codes in relation to the static analysis of nuclear reactor cores and the multi-physics simulation of nuclear power plant (NPP) dynamic behaviour

Content

Lattice (assembly) calculations
Thermal-hydraulic analysis
Reactor core analysis
Multi-physics core dynamics calculations
Best-estimate NPP transient analysis

Learning Prerequisites

Recommended courses

Special topics in reactor physics, nuclear safety

Learning Outcomes

By the end of the course, the student must be able to:

- Interpret the output of nuclear simulation software
- Compose simple input data for nuclear simulation software

Transversal skills

- Access and evaluate appropriate sources of information.
- Use both general and domain specific IT resources and tools