UCLouvain

lbnen2020

2023

Advanced Nuclear Reactor Physics and Technology (Centre d'étude nucléaire-Mol)

3.00 credits		Q2

Language :	English
Place of the course	Autre site
Prerequisites	The following BNEN course is a prerequisite • Nuclear Reactor Theory
Main themes	**Theoretical part** • Reactor codes and adjoint theory -4h • Reactor Physics for fast reactors -4h • GEN IV reactor technologies -6h • ADS reactor physics and technology- 6h • GEN IV and the closed fuel cycle - 4h **Laboratory session and exercises** • Lab session - GUINEVERE - 4h • Exercise session on reactor codes - 4h
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 • Describe the 6 GEN IV designs accepted by the GIF • Compare GEN IV with GEN II and GEN III reactors. • Give an overview of international networks and research infrastructures for GEN IV systems
Evaluation methods	Written examination on theory and exercises (open book)
Inline resources	https://www.sckcen.be/fbnen
Bibliography	The PowerPoint presentations of the lectures are available on the BNEN website.
Other infos	This course is part of the Advanced Master programme in nuclear engineering organized by the Belgian Nuclear Higher Education Network (BNEN). BNEN is organised through a consortium of six Belgian universities and the Belgian Nuclear Research Centre, SCK-CEN and takes place at the SCK-CEN in Mol. **Prof. Hamid Aït Abderrahim** ' Université Catholique de Louvain-la-Neuve
Faculty or entity in charge	EPL

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Advanced Master in Nuclear Engineering	GNUC2MC	3		