



MS-NUAP | 2023-2024

## Specialized Master in Nuclear Engineering

### Programme mnemonic

MS-NUAP

### Studies level

Advanced master

### Learning language

english

### Schedule

office hours

### Studies category / subcategory

Sciences and technics / Engineering sciences

### Campus

Other campus

## Programme's added value

BNEN combines the knowledge and experience in nuclear education of six major Belgian universities together with the Belgian nuclear research centre and offers a unique and broad Master-after-Master program in nuclear engineering in close interaction with nuclear research and industry.

## Teaching methods

Could you please connect and check <http://bnen.sckcen.be/>

## Job opportunities

Could you please connect and check <http://bnen.sckcen.be/>

## Programme objectives

Registering to this master-after-master program gives access to the Belgian Nuclear higher Education Network (BNEN).

The condensed - 60 crédits in one year, including a master thesis – BNEN program allows the students to acquire all necessary scientific and technical background and skills to develop a career in the field of nuclear applications, mainly for electricity production.

Students are offered the opportunity to coherently take a part of their basic nuclear education at different places in Europe while cumulating credit units. Practical laboratory sessions and advanced subjects taught in a modular way are also offered to enrich the program.

### Contacts

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🌐 <http://bnen.sckcen.be/>

### Jury President

Pierre-Etienne LABEAU

### Jury Secretary

Peter Baeten

# Specialized Master in Nuclear Engineering

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**Unique year** | MS-NUAP

## Compulsory courses

- CHIM-Y600** [Nuclear materials](#) | Marc SCIBETTA  
 3 credits academic year English  
 KU Leuven : 2 ECTS - ULiège: 1 ECTS
- ELEC-Y600** [Introduction to nuclear energy](#) | Geert VAN DEN BRANDEN  
 3 credits academic year English  
 KULeuven - 3 ECTS
- MECA-Y600** [Nuclear thermal hydraulics](#) | Yann BARTOSIEWCZ  
 5 credits academic year English  
 UCLouvain : 5 ECTS
- PHYS-H602** [Introduction to nuclear physics and measurements](#) | Nicolas PAULY  
 3 credits academic year French  
 ULB - 3 ECTS
- PHYS-Y601** [Nuclear reactor theory](#) | Peter BAETEN, Geert VAN DEN BRANDEN and Matthias VANDERHAEGEN  
 6 credits academic year English  
 KULeuven : 2 ECTS - UGent : 2 ECTS - VUB : 2 ECTS
- PHYS-Y602** [Nuclear fuel cycle](#) | Christophe BRUGGEMAN and Kevin GOVERS  
 3 credits academic year English  
 ULiège : 3 ECTS
- PHYS-Y603** [Radiation protection](#) | Klaus BACHER  
 3 credits academic year English  
 UGent : 3 ECTS
- PHYS-Y608** [Safety of nuclear power plants](#) | Greet JANSSENS-MAENHOUT, Pierre-Etienne LABEAU and Matthias VANDERHAEGEN  
 5 credits academic year English  
 UGent : 3 ECTS - ULB : 2 ECTS

## Elective modules

*A total of nine credits chosen from the following*

- PHYS-Y605** (optional) [Advanced nuclear materials](#) | Steven Van Dijck  
 3 credits academic year English  
 KULeuven : 2 ECTS - ULiège : 1 ECTS
- PHYS-Y607** (optional) [Nuclear and radiological risk governance](#) | Greet JANSSENS-MAENHOUT and Fernand VERMEERSCH  
 3 credits academic year English  
 UGent : 1 ECTS - UCLouvain : 2 ECTS
- PHYS-Y609** (optional) [Advanced radiation protection/radiation ecology](#) | Klaus BACHER  
 3 credits academic year English  
 UGent : 3 ECTS

PHYS-Y610  
(optional)

[Advanced courses of the nuclear fuel cycle](#) | Christophe BRUGGEMAN and Kevin GOVERS

3 credits academic year

ULiège : 3 ECTS

PHYS-Y611  
(optional)

[Advanced course elective topic](#) | Peter BAETEN

3 credits academic year

VUB : 3 ECTS

PHYS-Y616  
(optional)

[Advanced nuclear reactor physics and technology](#) | Hamid Ait ABDERRAHIM

3 credits academic year English

UCLouvain : 3 ECTS

## Memory

MEMO-H601

[Master thesis](#)

20 credits academic year English