MASTER OF NUCLEAR ENGINEERING (ADVANCED MASTER)

Organised jointly by Ghent University, Vrije Universiteit Brussel, Katholieke Universiteit Leuven, Université de Liège, Université Catholique de Louvain and Université Libre de Bruxelles, with the collaboration of the Belgian Nuclear Research Centre

60 ECTS CREDITS – LANGUAGE: ENGLISH – DEGREE: MASTER OF SCIENCE

COURSE CONTENT

Probably the most familiar nuclear engineering application is the production of electricity by means of nuclear power. Over 30% of electricity in the EU and roughly 55% in Belgium is provided by nuclear power. Moreover, at a small absolute but high relative scale, Belgium developed on its territory almost all kinds of nuclear activities: power plants, fuel production, radioelement production, engineering companies, accelerator design and fabrication, waste management, safety management, nuclear medicine, research
and higher education.
BNEN, the Belgian Nuclear higher Education Network organises a one-year (60 credits) advanced master's programme in nuclear engineering. BNEN is organised through a consortium of six Belgian universities and the Belgian Nuclear Research Centre, SCK•CEN.
The primary objective of the BNEN programme is to educate young engineers in nuclear engineering and its applications and to develop and maintain high-level nuclear competences in Belgium and abroad. BNEN catalyses networking between academia, research centres, industry and other nuclear stakeholders.
All teaching activities take place at SCK•CEN. Courses are organised in English and in a modular way; teaching in blocks of one to three weeks for each module allows optimal time management for students and lecturers, facilitates registration for individual modules, and allows easy access for international students.

The Belgian Master of Nuclear Engineering programme is embedded in the European ENEN association, a non-profit international organisation of universities and research centres for the preservation and further development of higher nuclear education and expertise. Students who enrol for at least 20 credits of courses in a foreign university, receive an ENEN certificate next to their BNEN degree.

COURSE STRUCTURE

The BNEN one-year programme was created in close collaboration with representatives of the utility companies and power plants and teaches students in all aspects of nuclear technology and its applications, creating nuclear engineering experts in the broad sense.
The programme consits of a compulsory part of general courses, that needs to be complemented with three elective courses. These elective courses are used to either broaden or deepen a theme. Exercises and hands-on sessions in the specialised laboratories of SCK•CEN complement the theoretical classes and strengthen the development of nuclear skills and attitudes in a research environment. Various technical visits are organised to research and industrial nuclear facilities.

> Master's dissertation

The master's dissertation is an essential part of the programme, where the students have to apply the compentences they have acquired during the year on a specific research project of their choice. The subjects can be chosen in a large domain of nuclear engineering related topics, that are directly linked to the R&D programme of SCK•CEN, research of the professors at the partner universities, or operational problems in industry.

CAREER PERSPECTIVES

The objective of the Master of Nuclear Engineering is to offer present/future professionals and researchers a solid background in the different disciplines of nuclear engineering.

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TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

Na geschiktheidsonderzoek:

- Hoger Onderwijs van de Vlaamse Gemeenschap:
  - Ma ingenieurswetenschappen (uitgezonderd MSc ingenieurswetenschappen: architectuur)
  - MSc in Engineering (uitgezonderd MSc Architectural Engineering)
  - Master bio-ingenieurswetenschappen
- Hoger Onderwijs van de Franse Gemeenschap:
  - Master Ingénieur Civil (uitgezonderd Master Ingénieur Civil Architecte)
  - Master Bioingénieur
- Koninklijke Militaire School / Ecole Royale Militaire (Brussel):
  - Master of Science in Engineering

opleiding(en) oude structuur:

de houders van een diploma uitgereikt door:

Hoger Onderwijs van de Vlaamse Gemeenschap:
- burgerlijk ingenieur (uitgez. burg.ir. - architect)
- bio-ingenieur

Hoger Onderwijs van de Franse Gemeenschap:
- Ingénieur Civil
- Bioingénieur

Koninklijke Militaire School / Ecole Royale Militaire (Brussel):
- burgerlijk polytechnisch ingenieur

Ecole Royale Militaire (Brussel):
- ingénieur civil polytechnique

Na geschiktheidsonderzoek en na het volgen van een voorbereidingsprogramma:

- ander masterdiploma

opleiding(en) oude structuur:
- ander academisch tweedecyclusdiploma
- ander tweedecyclusdiploma hogeschool

TAAL

Je voldoet aan de taalvoorwaarden op basis van je Vlaams diploma.

PRAKTISCHE INFORMATIE

Studieprogramma:
https://studiegids.ugent.be
> faculteiten > opleidingstypes > ga naar de opleiding van je keuze

Infomomenten
Masterbeurs
www.ugent.be/masterbeurs

Studiegeld
Meer informatie vind je op:
www.ugent.be/studiegeld

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ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Applicants must have obtained an academic degree after at least five years of study (Master of Science, Engineering or equivalent) in a discipline related to the content of the programme from a recognised University, College or Institute.

LANGUAGE

More information regarding the required knowledge of English:
www.ugent.be/languagerequirements

PRACTICAL INFORMATION

Study programme

www.ugent.be/coursecatalogue
> by Faculty > Programme types > select your programme

Application deadline for international degree students

- for students who need a visa: 1st of March
- for students who do not need a visa: 1st of June

www.ugent.be/deadline

Enrolling institution

Ghent University

Tuition fee

More information to be found on:
www.ugent.be/tuitionfee

Contact
Faculty of Engineering and Architecture
International Relations Officer – Degree students
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