SCIENCES, TECHNOLOGIES AND HEALTH

Materials for nuclear energy

Master in Materials science and engineering

Target level
Baccalaureate +5

ECTS
120 credits

Duration
2 years

Component
Grenoble INP - Phelma (Physique, électronique et matériaux), UGA

Language(s) of instruction
English

Presentation

The master in MaNuEn - Materials for Nuclear Energy - is an international master designed for students wishing to pursue a career in the nuclear industry, in R&D or working for research organisations. MaNuEn is a 2-year master that aims to cover the specificities of the materials used in the nuclear environment, whether fuel or components, with a particular focus on the durability of materials under irradiation. The second year of the master MaNuEn is shared with the Master of Science Innovation in Nuclear Energy - EMINE (first year at KTH in Sweden or the UPC in Spain).

The content of the program and courses was developed in collaboration with engineers from EDF and CEA. The second year takes place over two semesters : all the courses of the master are taught in the first half (september to january) : 2 specialised courses taught at CEA Cadarache (3 weeks in december) and the Materials Ageing Institute (2 weeks in january at EDF in Les Renardières) are part of the curriculum. Start of the new academic year : early september

Train engineers or researchers in aspects related to materials and their durability in the nuclear field

Skills

• Science of materials for nuclear energy
• Durability of materials (fuel and components)

International education : Internationally-oriented programmes

International dimension

100 % in English

Admission

Access conditions

To be accepted for a master 2nd year, you must hold a master 1 degree or equivalent. Your previous studies must be compatible with the master you wish to study. The recruitment and registration conditions are stated for each speciality.

Candidature / Application

See Grenoble INP website

Prerequisites

- Pre-requisite for the master 1 st year : have a bachelor degree in physics, mechanics, nuclear physics, materials
- Pre-requisite for the master 2nd year : have an master 1st degree in physics, mechanics, nuclear physics, materials

And after

Further studies

All doctoral schools in physics or materials, for example ED IMEP2 or ED physics in Grenoble

Sector(s)

- Engineer in the nuclear industry
- Engineer in research and development centres (CEA, EDF, Areva...)
- Researcher or teacher-researcher in academia

Useful info

Contacts

Program director

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Program administration

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Partner schools

Institut national des sciences et techniques nucléaires

http://www-instn.cea.fr/

Course location(s) - City

Grenoble

Campus

Grenoble - University campus

Program

Specifics of the program

Awaiting update