

Master of Science Nuclear Energy

Concentration in Decommissioning & Waste Management



INSTITUTION(S)

École des Ponts ParisTech
Institut Polytechnique de Paris
INSTN
Paris-Saclay University

DURATION OF STUDY Two-years formation

LANGUAGE 

TRAINING LOCATION Gif-sur-Yvette
Orsay
Palaiseau
Paris



MODE OF STUDY • Continuing education
• Full time programme

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PREREQUISITES

Students from scientific university courses, in France or abroad, who have validated 180 ECTS (bachelor degree in physics, chemistry, mechanics, or nuclear engineering).

Student engineers from engineering schools who have completed successfully their first year.

SUMMARY

The Master in Nuclear Energy (MNE) is a two-year master degree programme taught exclusively in English. It aims to train high-level experts to meet current and future needs of the nuclear industry: performance optimization of the current reactor fleet, design of third-generation facilities, development of advanced processes and Generation IV reactors, operation of current reactors and facilities, dismantling of facilities, reprocessing of spent fuel, nuclear waste management, etc.

The first year consists of core courses with a specialization in either physics or chemistry.

The second year, different concentrations are available to students: Fuel Cycle (FC), Decommissioning & Waste Management (DWM), Nuclear Plant Design (NPD), Nuclear Reactor Physics & Engineering (NRPE), or Operations (OP).

Second year - M2 Decommissioning & Waste Management (DWM): this track provides students with the knowledge and know-how necessary for the dismantling of nuclear facilities (laboratories, nuclear power plants, contaminated areas) and for waste management. It also covers all the measures to be put in place to ensure the safety of people and the environment. At the end of the programme, students will master the problems of waste management, clean-up/dismantling of facilities, project management, radiation protection associated with waste and clean-up/dismantling, economics of clean-up/dismantling, as well as the standards and regulatory obligations related to these subjects. The training includes numerous study tours (facilities undergoing dismantling, nuclear waste storage and disposal sites in France).

The DWM master degree is accredited by the I2EN and awarded the I2EN Label.

SKILLS

- To be able to analyse the problems encountered and the solutions found in the context of dismantling nuclear facilities;
- To manage projects (teamwork, management, knowledge of methods and strategies, ethics and policy);
- Know and take into account the economic aspects and imperatives of dismantling nuclear facilities;
- Master and respect the rules of nuclear safety and security, personnel safety, environmental quality;
- Master the fundamental bases of nuclear physics.

CAREERS

- Consulting engineer, responsible for defining the nature and stages of dismantling operations;
- Execution engineer, responsible for the management and supervision of on-site operations;
- Operating engineer for waste storage facilities;
- Consulting engineer responsible for the design of the storage during decommissioning.