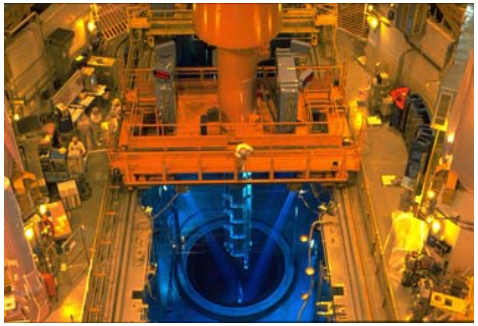
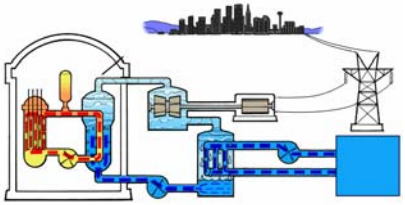
Careers



This Master, which is a flagship program, provides the current and future job market with scientists and engineers who have acquired a complete and broad picture of the Nuclear Energy domain - with not only scientific and technical knowledge but also with economical, organisational and managerial skills.

The five Majors in this program cover a wide variety of careers in the nuclear industry as either experts or managers in fields such as:

- Design and construction
- Operation and maintenance
- Nuclear plant decommissioning and waste management
- Fuel cycle



The program also aims to prepare students for a career in research and education for those continuing with a doctoral program.

Contact :

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F-91406 ORSAY Cedex (France)

Master of Science

NUCLEAR ENERGY

http://www.master-nuclear-energy.fr
2010-2011

Two-year MSc Program, taught in English
Located in Paris (France)

Direct admission to second year for qualified students

The program is run by a consortium of leading academic institutions (Université Paris-Sud 11, ParisTech, Supélec, École Centrale Paris, CEA/INSTN) with the support of major companies (EDF, AREVA, GDF SUEZ).

Objectives

The revival of nuclear energy at the international level has led Parisian research partners and the nuclear industry to combine their efforts and create a unique International Master of Science in Nuclear Energy.

This programme, being both vocational and research based, responds to the demand for strong industrial growth by training industrial professionals, and highly specialised researchers and lecturers. The International Master in Nuclear Energy aims to teach both French and international students the principles and knowledge required for the nuclear industry.

Courses

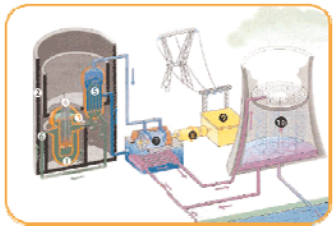
The ***first year (M1)*** consists of basic scientific courses

Nuclear Physics and Neutronics
Material Sciences
Process Engineering and Chemistry of Reactive Media
Electrical Engineering
Fluid Mechanics and Heat Transfer
Economics of Energy
Project Management

Second year (M2) students study risk management, radiation protection, environmental and societal issues and specialise in one of the five Majors:

Nuclear Reactor Physics & Engineering
(previously Nuclear Engineering)

Neutronics
Thermal hydraulics
Nuclear materials
Description and operation of nuclear reactors
Nuclear fuel cycles, safety & criticality



Nuclear Plant Design

Approaches and rules for safe design
Design and operation of nuclear boilers
Structural design and calculations
Design and specification of functional systems
Ergonomics
Implementation and monitoring of the manufacturing process
Nuclear-specific regulations
Rules and technical criteria

Operation

Management and maintenance of a nuclear facility
Rules for safe operation, safety management
Definition of radiation safety
Optimisation of the operation of nuclear facilities
Teamwork, human factors
Nuclear-specific regulations

Fuel Cycle (Engineering or Radiochemistry)

Fuel management
Risk prevention
Radionuclide chemistry
Waste conditioning
Storage and recycling

Decommissioning and Waste Management

Waste management
Decommissioning nuclear facilities
Project management and planning
Economy of decommissioning
Rules and regulations