University of Lille 1

Key figures

20,207 students
20% international students
1,100 PhD students
1,582 tenured professors
39 laboratories

Lille 1 University

Lille 1 University of Science and Technology, is a world-class scientific and technology cluster. We have 39 laboratories, most of which are shared with national research organizations such as CNRS, INRIA, INSERM, and INRA. Our laboratories gather about 1,500 tenured professors and researchers and over 1,000 PhD students. 30% of our PhD students come from abroad. Thanks to our numerous partnerships, we make up a top-level scientific and technological cluster of national and international renown.

MASTER OF SCIENCE

The Master of Science in **Chemistry, Energy, and Environment – Nuclear Energy** taught at Lille 1 University is a one-year program focused on chemistry and materials for nuclear energy applications. The program addresses the issue of sustainable technological development by taking into account the preservation of the environment in the development of new energy technologies. Our students study both the front-end of the cycle by examining the use and transformation of raw materials, and the back-end by studying wastes, their recycling, valorization, and destruction processes. The program is meant for students who have completed a first year of MS in chemistry and wish to specialize in nuclear energy to both get strong theoretical background and have an opportunity to do lots of lab work. Our classes are taught by tenured professors, researchers, and experts from Lille 1 laboratories (UCCS, MET, PC2A, etc.) and nuclear industrial companies and research organizations such as AREVA, CEA, and IRSN. The first semester is dedicated to lectures and lab work at school and the second semester is a full-time internship in either an industrial company or research organization. A large selection of research projects in the laboratories are offered. Teaching language is French. The curriculum offers insights into the following disciplines: reactor services; front-end and back-end; neutronics; thermal-hydraulics; computing codes and simulation; operation of nuclear facilities; reactor safety and regulations; fuel cycle processes; dismantling; environmental impact; political economy of the energy sector; definition, properties, and manufacturing of materials (structure, fuel, matrices, and containers); and English or other foreign languages.

RESEARCH FIELDS

Lille 1 University of Science and Technology contributes to facing the challenges of the future. We conduct research in 8 research fields:

- information and communications science and technology,
- biology and biotechnology,
- chemistry and materials,
- environment,
- human and social sciences,
- mechanics,
- physics,
- mathematics.

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