

Professional Work Placement ...

Assistant production engineer : Organising, optimising and supervising production of goods taking into account safety, environment, quality, costs, deadlines and quantities. Able to manage a team or a production unit including budgeting. Can oversee other services associated with production (maintenance, quality...). (Rome H2502)

Sectors of Activity

Musical Acoustics
Secondary school teaching (competitive exam)
Environment – Energies
Government Service
Housing
Scientific Instrumentation
Mechanics
Optics
Health – Medical Engineering
Telecommunications
Transport

LICENCE (Bachelor) Sciences, Technology, Health PHYSICS

Majors Physics Physics - Chemistry «Sciences de la matière»

Objectives

The Physics major aims to provide students with a solid scientific foundation as well as a mastery of experimental and theoretical tools so as to prepare them to pursue a Master in Physics or a related field, or to begin a professional career.

In order to make students aware of the professional avenues open to them, an internship either in a laboratory or a firm is offered in the third year.

The Physics - Chemistry major provides the knowledge and skills required to prepare the CAPES secondary school teaching certificate in Physics and Chemistry.

The major « Sciences de la Matière » is organised in collaboration with the “Ecole Normale Supérieure de Lyon”. It unites Physics and Chemistry sharing common theoretical grounds within the same training. This major is thought as a preparatory year for the Master “Sciences de la Matière” which aims to train high level researchers capable of innovation in both industrial research and academic structures.

Conditions for admission

Year 1 (L1)

Baccalaureat (preferably S) or equivalent.

Students from European Union : admission requires knowledge of French (TCF level 4)

Non European Union students : special authorization required (DAP)

Year 2 (L2)

Students having acquired 60 ECTS in the first year (L1) of a PCSI at Lyon 1.

Students from first year of medical or pharmacy studies of any French university

By written application upon approval from the admissions committee:

- students with BTS or DUT diplomas

- students from preparatory classes for French engineering schools

- students from French universities other than Lyon 1, or foreign universities (DAP required for non EU students)

Year L3 (L3)

Students having acquired 120 ECTS in a BSc Physics major

By written application and/or competitive entrance exam (Ecole Normale Supérieure de Lyon) for students choosing the “Sciences de la Matière” major.

By written application, upon approval from the admissions committee:

- students with BTS or DUT diplomas

- students from preparatory classes for French engineering schools

- students from French universities other than Lyon 1, or foreign universities (DAP required for non EU students)

Admission to the BSc Physics major may be possible upon validation of professional experience

Responsable : Driss Rayane - **Téléphone** : 04.72.44.82.26 - **Courriel** : rayane@lasim.univ-lyon1.fr

Sites web : <http://www.univ-lyon1.fr> - <http://offre-de-formations.univ-lyon1.fr>

Orientation after successful completion of Year 2 (L2)

Continuation into Year 3 (L3) in one of the three Physics majors offered.

Continuation into a professional BSc at Lyon 1 in one of the following specialties (admission upon approval from admissions committee and/or interview)

- * ***Electricity and electronics***
Technology of medical devices
- * ***Transformation of metals***
Design and transformation processes
- * ***Managing Industrial Production***
Integrated management , quality, safety, environment
- * ***Energy systems and environmental engineering***
Radiation protection, dismantling and nuclear wastes, project management
- * ***Plastics technology and composite materials***
Production engineering of tooling for plastics
- * ***Networks and telecommunications***
Industrial and IT networks
- * ***Maintenance of pluritechnical systems***
Maintenance of industrial systems;
Organization and safety of industrial systems
- * ***Documentary resources and Data bases***
Documentation ; scientific and technical information
- * ***Sales***
Technical sales of industrial goods and services

Pursuing studies after obtaining the Bachelor degree

Master degree (2 years: M1 and M2 = 120 ECTS) (admission upon approval from admissions committee and/or interview, depending on Bachelor's curriculum)

The University of Lyon 1 offers several Masters programs with various specializations.

- ° ***Physics***
Synthesis, degradation and characterization of nuclear materials (Research)
Environment, atmosphere and radiation protection (Pro)
Renewable energies and management of electric energy (Pro)
Instrument development for micro and nano technologies (Pro)
Complementary skills in computer science (Pro)
Complementary skills in statistics (Pro)
- ° ***Micro and Nanotechnologies***
NanoScale Engineering (Pro/Research)
- ° ***'Sciences de la Matière'*** in collaboration with ENS Lyon
Physics : concepts & applications (Research)
Complex systems, modelisation (Research)
Physics, Chemistry and numerical methods (Research)
Chemistry : concepts & applications(Research)
- ° ***Physicochemical Analysis and Control***
Analytical sciences (Research)
Physicochemical analysis and control (Pro)
Bioanalysis, forensic science (Pro)
- ° ***Health and medicine engineering***
Medical Physics (Pro/Research)
Biomedical and pharmaceutical engineering (Research)
Pharmaceutical and cosmetic engineering: evaluation and quality (Pro)
Engineering of medical devices (Pro/Research)
Innovative materials (Research)

- ° ***Materials***
Innovative materials (Research)
Materials life cycle (Pro)
- ° ***Information and library sciences***
Information and library sciences; scientific and technical information (Pro)
- ° ***History, philosophy and didactics of sciences***
Construction, communication and acquisition of scientific and technical knowledge(Research)
Didactic, epistemology and history of sciences and techniques (Pro)
Complementary skills in statistics (Pro)
- ° ***Teaching of experimental sciences***
Physics and chemistry (Pro/Research)
- ° ***Primary and secondary school education***
Education and sciences; information and
Communication technologies (Pro/Research)

Skills

combine experimental activities and theoretical knowledge
model a simple physics problem
master scientific discourse
master and use a programming language
use IT to process data and pilot devices
know the principles, uses and functions of experimental devices
summarize a scientific document
master the writing of documents

- ° ***Cross-disciplinary skills***
be aware of and observe safety rules
define professional goals
implement an experimental analytic procedure
analyse and interpret experimental data
be able to research and process documentation
organise work in a team
master word processing tools; especially the Windows environment
use information and communication technologies
present results orally
draw up a report of results
communicating in oral or written English

Professional Work Placement

These diplomas can lead to employment in the following fields

Teaching : In secondary schools (CAPES, CAPET, Agrégation) or in primary schools (CRPE) following the competitive exams for teachers in the public sector, usually prepared at the IUFM.

Quality control technician : Assure the management and administrative follow-up of technical procedures and the general organisation of the structure (firm, department). May assist an engineer in his/her work. May also participate in on-site visits. Able to coordinate team activities. (ROME M1605)

Technical sales representative : Prospecting and visiting a professional clientele, proposing technical solutions adapted to the needs and requirement of clients, negotiating the conditions of sale. Can manage a sales team or a sales network. (ROME D1407)