Description

The Material Sciences license (Bac + 3 years) provides a solid grounding in both physics and chemistry. This diploma gives a wide variety of career opportunities in areas as diverse as the chemical industry, the petroleum industry, the food industry, pharmaceuticals, mining, environmental analysis, and cosmetics, as well as many others. It is also a solid stepping stone for admission to Master research degree and related sciences, as well as professional schools, aeronautics or nuclear.

Fundamental license in chemistry

Objectives of the training

The Bachelor's degrees (Licence) is a diploma made in three years; that is to say in 6 semesters. Upon completion of the license of Sciences Matter in chemistry degree, students will gain a base of knowledge and skills of handling chemicals. Specific objectives of the licence programs of the Sciences Matter in chemistry are:

- Provide a solid basic training in theoretical and practical chemistry that allowing an orientation towards several programs graduate of Master chemistry.
- Providing multiple pathways at the end of second year course towards third year so that students can have access to the specific license of chemistry according that we proposed

Career possibilities

The license dipoma of the Sciences Matter in chemistry gives a very good level of qualification and certifies the student to find a job quickly in the government services through public service commission particularly in the field of food safety, health inspector. etc.

Further study

License diploma in Materials Sciences can directly access a Master Degree in chemistry or physics. Moreover, having acquired experimental scientific knowledge, they will be able to carry out activities relating to the following functions: biochemistry, physical and chemical characterization of materials; synthesis of inorganic and polymeric materials; quality controls on materials, products and processes.

Course description:

Classes in the first year (common core) aim at providing students with basic knowledge in which are essential to the understanding of more technical chemistry and physics classes to be held in subsequent semesters.

The courses of the common core year cover two semesters (S1 and S2), it grouped into four educational units: fundamental, methodological, discovery and Transversal unit. Students are assigned to chemistry or physics filed according to their classification results. S3, S4, S5, S6 are specialty semesters.

The last semester (S6) has been alleviated in the courses, since the student will have to completed his training with internship in an industrial laboratory.

◊ Semester 1 (License)

UNITS
FONDAMENTAL
Mathematics 1 / Analysis & Algebra 1
Physics 1 / Point mechanics
Chemistry 1 / Structure of matter
METHODOLOGICAL
PRACTICAL WORK Mechanics
PRACTICAL WORK Chemistry
Computing 1
TRANSVERSAL
Foreign languages 1
DISCOVERY
Discovery of University Work Methods A subject to choose from: (Biotechnology / Environment)

◊ Semester 2 (License)

UNITS
FONDAMENTAL
Mathematics 2 / Analysis & Algebra 2
Physics 2 / Electricity
Chemistry 2 / Thermodynamics & Chemical Kinetics
METHODOLOGICAL
PRACTICAL WORK of Electricity
PRACTICAL WORK of Chemistry 2
Computing 2 / Programming languages
TRANSVERSAL
Foreign languages 1
DISCOVERY
A subject to choose from: (History of Sciences / Renewable Energies)

◊ Semester 3 (License)

UNITS
FONDAMENTAL
Mineral chemistry
Organic Chemistry 1
Applied mathematics
Vibrations, Waves & Optics
METHODOLOGICAL
PRACTICAL WORK of Mineral Chemistry
PRACTICAL WORK of Organic Chemistry 1
Numerical Methods and Programming

TRANSVERSAL
English 3
DISCOVERY
Physico-Chemical Analysis Techniques I

◊ Semester 4 (License)

UNITS
FONDAMENTAL
Organic Chemistry 2
Thermodynamics & Chemical Kinetics
Analytical Chemistry
Quantum chemistry
METHODOLOGICAL
PRACTICAL WORK of Analytical Chemistry
PRACTICAL WORK Thermodynamics & Chemical Kinetics
Inorganic chemistry
TRANSVERSAL
English 4
DISCOVERY
Physico-Chemical Analysis Techniques II

◊ Semester 5 (License)

FONDAMENTAL
UEF1
Organic Chemistry III
Analytical chemistry II
UEF2

Crystallography
Chimie Quantique II
METHODOLOGICAL
UEM1
PRACTICAL WORK synthèse organique & PRACTICAL WORK chimie analytique
A material to choose from (PRACTICAL WORKof crystallography / PRACTICAL WORK of molecular modeling)
DISCOVERY
UED1
A material to choose from (Materials chemistry / Macromolecular chemistry / Environmental chemistry / Therapeutic chemistry / Bio-organic chemistry)
TRANSVERSAL
UET1
English Scientific 1

◊ Semester 6 (License)

FONDAMENTAL
UEF1
Thermodynamics of solutions
Electrochemistry
UEF2
Molecular spectroscopy
Surface chemistry and catalysis
METHODOLOGICAL
UEM1
A subject to choose from (PRACTICAL WORK of thermodynamics of solutions / PRACTICAL WORK of chemistry of surfaces)
A subject to choose from: (electrochemistry lab /

physical methods of surface analysis)
DISCOVERY
UED1
Ethics and professional conduct
TRANSVERSAL
UET1
English Scientific 2