Chemistry and Pharmaceutical Technology

Class: LM 13  
Course code: 50/21  
Admission: restricted, via entry exam  
Entry requirements: Italian upper secondary school leaving qualification or an equivalent foreign qualification.  
Course length: 5 years  
Total students admitted: 100  
Overall credits: 300  
Knowledge required for entry: basic knowledge of physics, mathematics, chemistry and biology, logic and general knowledge.

Structure of the course

To complete the course the student must pass 26 compulsory exams as well as obtain an extra 8 credits from a subject of their choice. They will also do a foreign language exam and present a final thesis. During the course they will do an internship of no less than 6 months worth 30 credits.

Specific educational goals

The Master’s Degree in Pharmaceutical Chemistry and Technology aims to give the graduate specialised scientific skills in the planning, development, preparation and control of medicines and medicinal preparations. The course aims to form a professional that specialises in the pharmaceutical industry sector and is trained in the structural planning, the production and control of pharmaceuticals. Graduates from this course, besides having knowledge of basic, inorganic, organic, analytical, chemical-physical and pharmaceutical chemistry, also have knowledge in biochemical and biological chemistry (anatomy physiology, pathology, microbiology and hygiene). During the course of studies, students must carry out a period of professional practical training for a period of six months in a pharmacy open to the public or in hospital under the supervision of the pharmaceutical service which is worth 30 credits (CFU). This practical training is obligatory and allows graduates to take the state examination to be a qualified professional pharmacist. Graduates in Pharmaceutical Chemistry and Technology may also take the state examination to be a qualified chemist.

Career opportunities for graduates:

Professional opportunities for graduates in Master’s Degree of Pharmaceutical Chemistry and Technology are:
- Research and development, production, quality control and patent development in the pharmaceutical, cosmetics and food industry;
- Posts in public and private research laboratories and institutions of public control;
- Preparation, control, storage and distribution of medicines to pharmacies open to the public;
- Preparation, control, storage and distribution of medicines in hospitals (hospital pharmacies);
- Diffusion of information and advice on the medicinal sector;
- Storage, conservation and distribution of medicines in the wholesale commercial phase;
- Preparation of the pharmaceutical form of medicines;
- Production and control of medicines;
- Quality control of medicines and health products;
- Freelance professional chemist;
In addition, the pharmacist enrolled on the professional register may also cover the role of technical director of: factories producing medications; factories producing chemical substances used in medicines; regional branches, warehouses and storage centres of chemical products used in medicines and pharmaceutical preparations; factories that produce and package cosmetic products; production of baby and dietary foods; factories that produce medical equipment; services connected with production, safe storage and manipulation of toxic gases; factories producing food supplements and medicated supplements for animal feed, plant protection products etc.; authorised resellers of medicated supplements for zootechnics.

**Organisation**

The course promises:

- Constant educational support from all members of the faculty
- Monitoring so any problems can be identified and dealt with
- Timetables and dates of exams will be published in advance to allow for better organisation and time management.

**Disciplines:** General and inorganic chemistry, mathematics and computer skills, animal biology and vegetal biology, physics, analytical chemistry, English language, human anatomy, physical chemistry, organic chemistry, biochemistry and applied biochemistry, general physiology, drug analysis, food chemistry, pharmacognosy and general pharmacology, microbiology and general pathology, pharmaceutical and toxicological chemistry, physical methods of organic chemistry, toxicology, lab-based course on extraction and synthetic preparation of drugs, lab-based course on technology, socioeconomics and pharmaceutical legislation, pharmacological assays and dosages, applied pharmaceutical chemistry, technology, socioeconomics and pharmaceutical legislation, pharmacotherapy, pharmaceutical plants.