UFR Chimie-Biologie

Master in Chemistry

Master 2 Polymers for advanced technologies

Presentation

This program's aims at giving students the necessary knowledge in Polymer Science, and at teaching them the novel methods of synthesis, design and characterization of polymer materials with specific properties. The course is devoted to functional polymers used in biomedical applications and fields linked to renewable energies, environment and sustainable development. These fields are closely connected to the AXELERA, TENERRDIS and PLASTIPOLIS business clusters as well as to the French National Solar Energy Institute (INES) and the POLYNAT Carnot Institute. This master program involves training in and through research in polymers and gives students possibility to work within a company through additional professional training.

Professionally speaking, the jobs available to students after the master programs lie in research and development laboratories of polymer producers (chemical industry) and in industries using polymers such as microelectronics, optoelectronics, fuel cells and batteries, biomedicine, cosmetics, energy storage and conversion and coatings.

The first year of the Master M1 in Chemistry leads to four Master 2 programs: ChemTechCo, CLS, PTA and SOIPA. The different first semester courses offer a scientific knowledge in chemistry and its interfaces with life sciences and polymeric materials. During the course, the students will acquire the disciplinary skills vital for any type of chemist (in particular analytical methods, spectroscopy, experimental and bibliographic techniques, amongst others). By choosing the Polymers courses, students inclined towards the Functional Polymers M2 program will also acquire knowledge in the synthesis of polymers with controlled architecture, and in the conformational and configurational analysis of polymers. These classes are supplemented by cross-disciplinary classes focused on languages and graduate employment and by a mandatory internship (from 2 to 5 months) which enables students to get to grips with working in a team, in an academic or industrial setting, in France or abroad.

Registration and scholarships

First year Master's degree: If you have completed a Bachelor's degree in Science or are enrolled in the final semester of a Bachelor's programme in Science, you are eligible to apply for the Master's degree in Chemistry.

Second year Master's degree: to be eligible to apply you should have completed, or be enrolled in a first year of a Master programme in Science, and totalize 60 ETCS.

Candidates from a foreign university : see more information here : http://www.univ-grenoble-alpes.fr/fr/grandes-missions/formation/candidatures-et-inscriptions/

Public continuing education:

You are in charge of continuing education:
• if you resume your studies after 2 years of interruption of studies,
• or if you followed training under the continuous training regime one of the previous 2 years
• or if you are an employee, job seeker, self-employed.

If you do not have the diploma required to integrate the training, you can undertake a validation of personal and professional achievements (VAPP).=

Would you like to apply and register?
Be aware that the procedure differs depending on the diploma, the degree obtained, or the place of residence for foreign students.
Let yourself be guided by following this link: http://www.univ-grenoble-alpes.fr/fr/grandes-missions/formation/candidatures-et-inscriptions/

Further studies

The proposed studies are of two types. Students who do not wish to do doctoral dissertations enter either directly into the labor market or follow a second master's degree in order to acquire transversal skills, often in a business school. Students from the training who wish to continue their studies with a thesis find thesis funding.

Practicals informations :

- **School :** UFR Chimie-Biologie
- **Duration :** 1 year
- **Course type :** Initial and Continuing Education
- **Location(s) :** Grenoble - University campus
- **Contacts :**

Programme director

Rachel Auzely
Rachel.Auzely@cermav.cnrs.fr

Administrative contact

Chemistry-Biology Course Services
ufrchimiebiologie-formation@univ-grenoble-alpes.fr

Program

Master 2nd year

Semester 9

UE Polymers for renewable energy sources and for flexible electronics	6 ECTS	48h
UE Biomaterials and biobased polymers	6 ECTS	48h
UE Nanostructured materials	3 ECTS	24h
UE Degradation and sustainability	3 ECTS	24h
UE Analysis, formulation and coatings	3 ECTS	40h
UE Tools for investigating polymers	3 ECTS	34h

2 option (s) to choose from 4

UE Tools for business	3 ECTS	40h
UE Literature project	3 ECTS	20h
UE Molecular modelling	3 ECTS	30h
UE Green chemistry		

Semester 10

UE Tools for engineers	3 ECTS	39h
UE Internship	24 ECTS	

UE Languages