

Master's Degree, One Year Graduate Program Biorefinery and Bio-based Materials

Bio2

Are you interested in the fields of biomass valorisation, biorefinery processes and in the production of biofuels as a replacement for fossil-based products? Do you also have an interest in the environment and sustainable development?

Have you completed at least 4 years of science-based higher education (chemistry, materials science or chemical engineering) and are you keen to study in France? Apply for the Biorefinery and Bio-based Materials Master's degree!

The Biorefinery and Bio-based Materials Master's program aims to train professionals specializing in the field of **biomass valorisation**, with a particular focus on the development of processes allowing its **transformation into bio-based materials, chemical products or energy sources**.

This program will help you to develop specific skills in the fields of **chemistry, process engineering** and polymerisation, but also in the areas of **production costs, environmental factors** and **energy consumption**. International companies in the **textile, packaging, energy, food and pharmaceutical sectors** have a particular need for these skills today.

TOPICS COVERED

- BIOREFINERY (CHEMICAL COMPONENTS OF PLANTS, POLYMER CHEMISTRY)
- BIOREFINERY FOR ENERGY (BIOETHANOL AND BIOMETHANE PRODUCTION, DIESTER PRODUCTION)
- BIOREFINERY FOR BIOPRODUCTS
- BIO-BASED MATERIALS (BIOPOLYMERS, COMPOSITES, NEW BIO-BASED MATERIALS)
- SUSTAINABILITY ASSESSMENT (ENVIRONMENTAL FACTORS, ENERGY CONSUMPTION)

TRAINING PROVIDED IN ENGLISH

DURATION

1-year, from Sept. to August

LOCATION

Grenoble, France

6-MONTH INTERNSHIP IN A COMPANY OR LABORATORY

with a minimum monthly stipend of €600 if it takes place in France

SCHOLARSHIPS AVAILABLE

TUITION FEES

€254/year EU citizens

€3 941/year non EU-nationals

PROGRAM DESCRIPTION

The Biorefinery and Bio-based Materials master's program leads to an official qualification.

FALL SEMESTER

- UNIT 1 Biorefinery for chemicals
- UNIT 2 Biorefinery for energy
- UNIT 3 Bio-based materials
- UNIT 4 Biomass purification and analytical techniques
- UNIT 5 Technico-Economical Project

SPRING SEMESTER

FINAL-YEAR 6-MONTH INTERNSHIP IN A COMPANY OR IN A LABORATORY

With a strong network of industrial and research partners, Grenoble INP - Pagora will assist each student to find a final-year internship (grant of about €600/month if it takes place in France).



INTERNATIONAL DIMENSION

Courses taught in English,
Opportunity to enrol on a double degree programme in collaboration with the following universities: KTH (Sweden), UPC (Spain) and UQTR (Quebec, Canada).

STUDENTS TESTIMONIES

Elena | 2026

” I was originally interested in bio-fuel production and bio-energy in general for a sustainable future, but everything changed when I discovered the amazing world of biobased materials. Since then, I've attended every class with high interest.

Omar Mohamed | 2026

” I want to improve the processes of generating energy not using oil or gas. That's why I came here – to understand a lot more about the industry of the green energy and to start working on these processes.

IN COLLABORATION WITH



PREREQUISITES

At least 4 years of science-based higher education or 1 year of graduate studies in materials science, chemistry, biochemistry, chemical engineering or polymeric materials

English language skills: level B1 minimum, level B2 strongly recommended, European standards

APPLY ONLINE

DEADLINE FOR SUBMITTING
THE APPLICATION

pagora.grenoble-inp.fr/en/education/master



CONTACT

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