



MSC GREEN CHEMISTRY

AND PROCESSES

FOR BIOMASS

(GREEN CAP)

Today the chemical industry must adapt to cope with the increasing scarcity of resources, the new regulations, and the social, ecological and political pressure. In this context, the use of renewable resources like feedstocks or microbial biomass represent a real interest to prepare functional bioproducts and to contribute to energetic transition which constitutes significant levers for innovation. By combining the different disciplines Green chemistry, Catalysis, (Bio)Processes, and Formulation this master aims at providing the essential tools to develop clean and safe processes involved in the new emerging fields of agribusiness.

AIMS OF THE PROGRAM

- Train engineers able to implement clean technologies in a context of sustainable development to provide solutions in the fields of green chemistry and bioprocesses.
- Master the transformation of renewable resources by catalytic or biotechnological means,
- Develop functional, safe and innovative bioproducts, according to an ecodesign approach.



CONTACT

master_greencap@univ-toulouse.fr
<http://msc-inp-insa-ensfea-toulouse.fr>



APPLICATION

Deadline: June 15th
 Tuitions fees: 9000€/year
 Reduction down to 5000€/year
 for academic partners and selected students
www.toulousetech.net

FOCUS

Masters of Science are national degrees accredited by the French ministry of higher education

Further studies: PhD program (3 years)

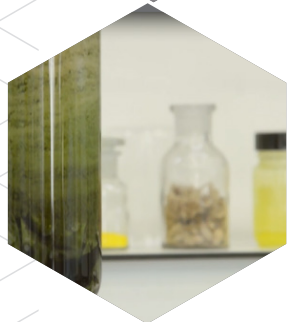
All MSc Degree holders are allowable to take a step forward in the academic track to get the PhD degree

Pre-requisite: Bachelor's degree

Programs are taught in English

INP - ENSIACET and INSA are members of the N+i network

www.nplusi.com



JOB OPPORTUNITIES

The GreenCAP Master is particularly suited to students wishing to specialize in the valorisation of the valorization of biomass for industrial applications by using clean processes.

Placements and prospects are mainly in the fields of research and development, production, engineering, consultancy or environmental assessment.

Employment sectors are: Energy production chains, Ecotechnologies, Fine Chemistry, Bioproducts of specialities, Cosmetics & health, Agro-industry and the Environment.

PROGRAM CONTENT

Integration of students in the field of process and green chemistry.

The first semester (M1) is a semester for international master (SIM) shared with other international masters of INPT-INSA, and dedicated to the scientific integration of students, .It includes a bibliographic project.

The second semester (M1) includes thematic courses combining tutorials, seminars and a project. It is divided in 4 teaching units (TU).

TU1 - Sustainable Process

TU2 - Tools for a green Chemistry

TU3 - Polymer Sciences

TU4 - Langage and Project

The third semester (M2) is divided into 6 TU:

TU1 - Tools in green chemistry and processes

TU2 - Bioprocess

TU3 - Formulation

TU4 - Conception of Bioproducts

TU5 - Catalysis for alternative Energies

TU6 - Project

The fourth semester (M2) is dedicated to the internship (Master thesis) of 5 to 6 months in a company, in a research & development center or in one of the laboratories linked to the master.

RESEARCH INSTITUTIONS &

INDUSTRIAL PARTNERS

The educational staff in charge of the master are research faculty members. They work in these internationally recognised laboratories in the fields of green chemistry, catalysis, green processes and bioprocesses.

- LCA (Laboratory of Agro-Industrial Chemistry), a joint research centre INRA1010, supported by the transfer centre: CRITT-CATAR Agroressources,
- LGC (Laboratory of Chemical Engineering), a joint research centre INPT-UPS and INSIS, supported by the transfer centre: CRITT Génie des Procédés et de l'environnement (in French).
- LCC (Laboratory of Coordination Chemistry), a CNRS research unit.

The three laboratories have close relations with the industry, as shown by the publication of many patents, by the awards received and by the affiliation with institutions of excellence (Institut Carnot 3BCAR, Laboratory of Sustainable energy).

The students can benefit from this partnership network in the framework of their project or the search of an internship.



Required documents:

CV, motivation letter, copy of Bachelor diploma, english level attestation.