

PROGRAM

1st semester

- 1/ Energy tools for engineers - 50 hrs
- 2/ Tools for Chemical Processes in Energy - 50 hrs
- 3/ Energy modeling tools - 50 hrs
- 4/ Research and Development Project - 150 hrs
2nd semester
- 5/ Research and Development Project - 50 hrs

2nd semester

- 1/ Energy tools for engineers - 50 hrs
- 2/ Sustainable development - 50 hrs
- 3/ Project in energy and sustainable development - 50 hrs
- 4/ Humanities, French, English - 50 hrs
- 5/ 4-month internship in a research laboratory
(academic or industrial)

3rd semester

- 1/ Energy engineering - 40 hrs
- 2/ Decarbonized energy - 40 hrs
- 3/ Energy efficiency - 40 hrs
- 4/ Energy storage and supply - 40 hrs
- 5/ Energy management - 40 hrs
- 6/ Sustainable Mobility - 60 hrs
- 7/ Research and innovation project - 100 hrs
- 8/ Humanities, French, English - 40 hrs

4th semester

Final internship (5-6 months)

ADMISSION CRITERIA

- Applicants should already have passed/validated a bachelor's degree in Physics, Physical Chemistry, Materials Engineering, Chemical Engineering, or Biochemical Engineering.
- The selection process will be based on the examination of the application file (cv, transcript of the BEng, English language certification). The candidate may be invited to an interview.



3 school projects and 2 internships

- > 4-month internship between the 2nd and 3rd semesters
- > final internship (5-6 months)



POLYTECH Clermont
2 Avenue Blaise Pascal - 63178 Aubière

www.polytech.univ-bpclermont.fr



MASTER'S DEGREE IN ENERGY FOR SUSTAINABLE ENGINEERING

Graduate Track For Intelligent
& Innovative Mobility





Institute of Technology
3 graduate schools of Engineering in Clermont-Ferrand
Clermont Auvergne University

Computer science • Biological Engineering • Mechanical Engineering • Civil Engineering
• Electrical Engineering • Mathematical Engineering & Data Science • Engineering Physics
• Production Systems Engineering • Chemistry & Chemical Engineering

3 engineering graduate schools

Clermont Auvergne INP - ISIMA
Clermont Auvergne INP - SIGMA Clermont
Clermont Auvergne INP - Polytech Clermont

INP Member of the INP Group
+35 public engineering schools
in France

4 engineering preparatory classes
(undergraduate level)

La Prépa des INP (Groupe INP)
CPI (Fédération Gay-Lussac)
Prép Isima
PeiP (réseau Polytech)

1 professional training
department

2 500 students

350 academic & administrative
staff

189 international cooperation
agreements

3 Main research centers
affiliated to the French
National Research Centre (CNRS)



EDUCATION



RESEARCH



PROMOTION OF RESEARCH



Polytech Clermont is a public Graduate School of Engineering of the French Ministry of Higher Education, Research, and Innovation. Polytech Clermont is a part of Clermont Auvergne INP and is a member of the Polytech Group which regroups 15 Graduate Engineering Schools in France, that train more than 10,000 engineers a year.

Polytech Clermont benefits from **the active international research** and study environment of Clermont Auvergne University, its staff is associated to 10 of its research laboratories. Polytech Clermont offers graduate students **six programs: Biological Engineering, Civil Engineering, Electrical Engineering, Mathematical Engineering and Data Science, Engineering Physics, Production System Engineering.**

Currently, around **1,200 students** are enrolled at **Polytech Clermont**. Polytech Clermont-Ferrand has trained nearly 7,000 engineers since its inception in 1969.

MASTER'S DEGREE IN ENERGY FOR SUSTAINABLE ENGINEERING

The mobility of people and objects consumes a large quantity of natural resources, in terms of both materials and energy. Energy efficiency, energy sobriety, and decarbonized energies are the keys for a sustainable future.



In short:

> **Course duration:**
3 semesters at POLYTECH Clermont
+ 1 semester of internship

> **Language:**
English + additional French language
courses

> **Starting in:** September

> **ECTS:** 60+60

This master's degree offers students multidisciplinary training in the field of engineering applied to energy production, storage, supply, and management, including mainly:

- renewable energy (bioenergy, solar from materials to panels)
- hydrogen production and power-to-gas
- sustainable mobility based on hydrogen, power, or liquid biofuels
- energy efficiency for industrial and service sectors

Take advantage of specialized training and research bench-scale to pilot-scale facilities of our chemical and biochemical engineering laboratory, and of the engineering physics workshops (CAD, soldering, 3D printing, physicochemical properties) of POLYTECH Clermont for project-based learning.

Industrial Partners:

Institut Pascal (chemical engineering, bioenergy, solar energy, physics), Excellence Laboratory on sustainable mobility (LabEx IMobS3) and CIR ITPS (Innovative Systems for Transportation and Production), Michelin, Bio-Valo.

Hosting Graduate School:



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