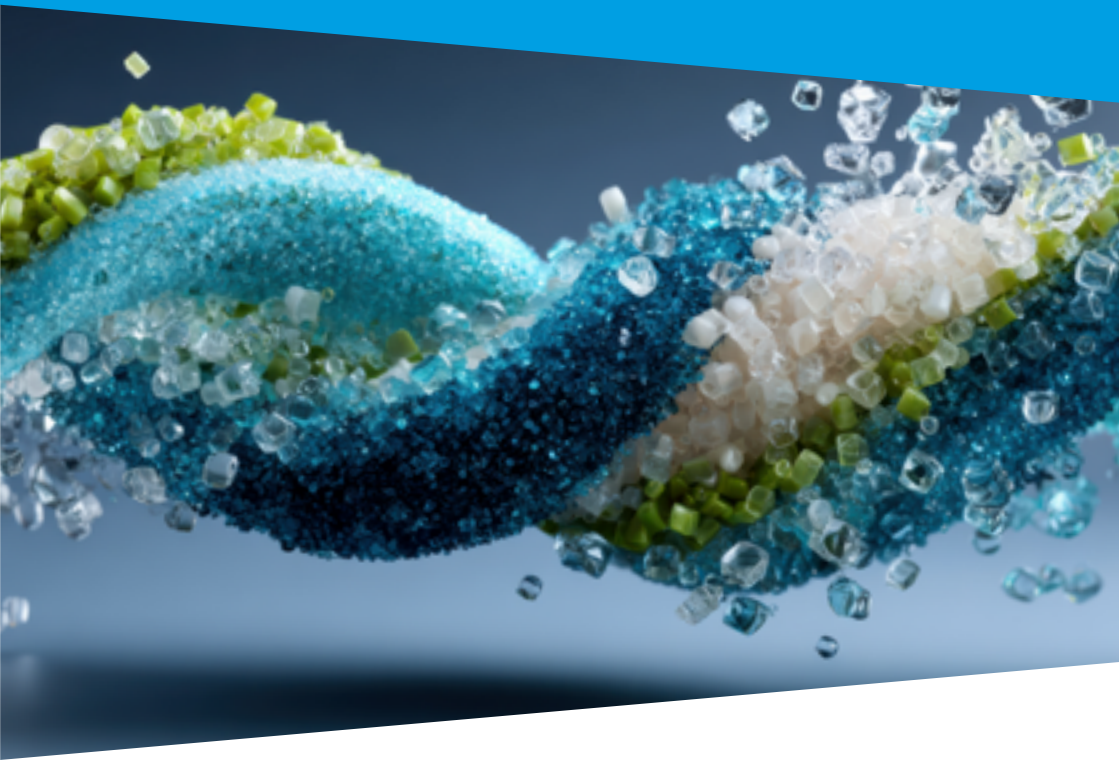
Master

Chemistry

Double Master in Polymer Science (DMiPS)



université de BORDEAUX

What is Polymer Science?

Polymer Science investigates the synthesis, structure, properties, and processing of macromolecules and polymer-based materials, bridging chemistry, physics, and materials science. **Polymers represent over 50% of materials used in industry** and are vital to sectors such as energy, healthcare, packaging, textiles, and advanced manufacturing. This two-year international double Master's program covers the full life cycle of polymers -from design and engineering to processing, recycling, and degradation- combining the complementary expertise of both partner universities to provide a unique, career-oriented education at the forefront of innovation and sustainability.

Objectives of the program

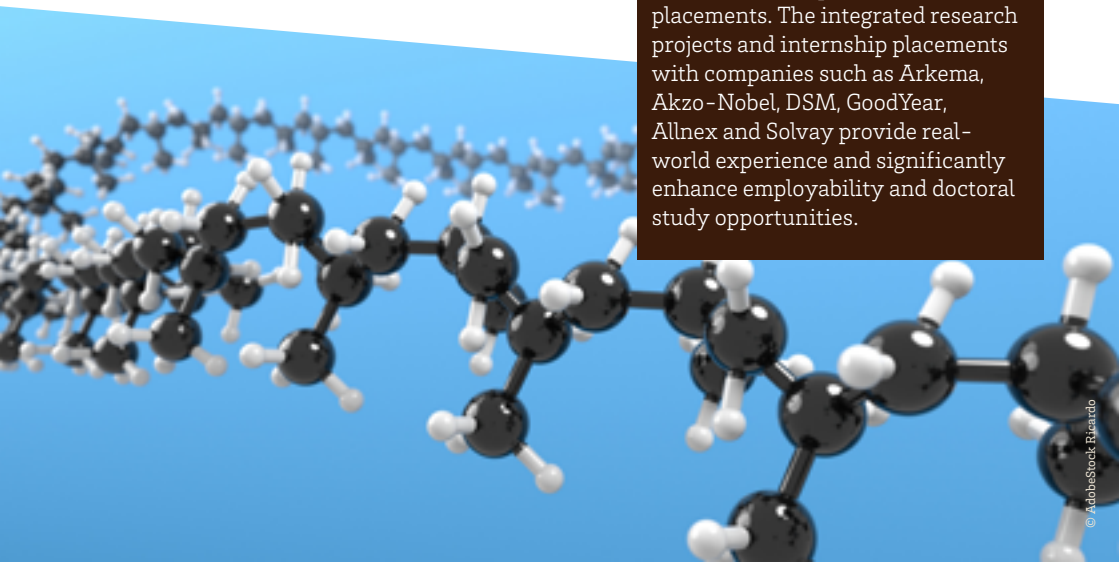
This program trains high-level polymer scientists with strong foundations in polymer chemistry, physics, and materials science. Through **an international double-degree curriculum**, students develop advanced experimental and research skills to design the next generation of high-performance and sustainable polymers. Graduates are prepared for careers in industrial R&D, innovation, and consulting, as well as for doctoral studies in academia.

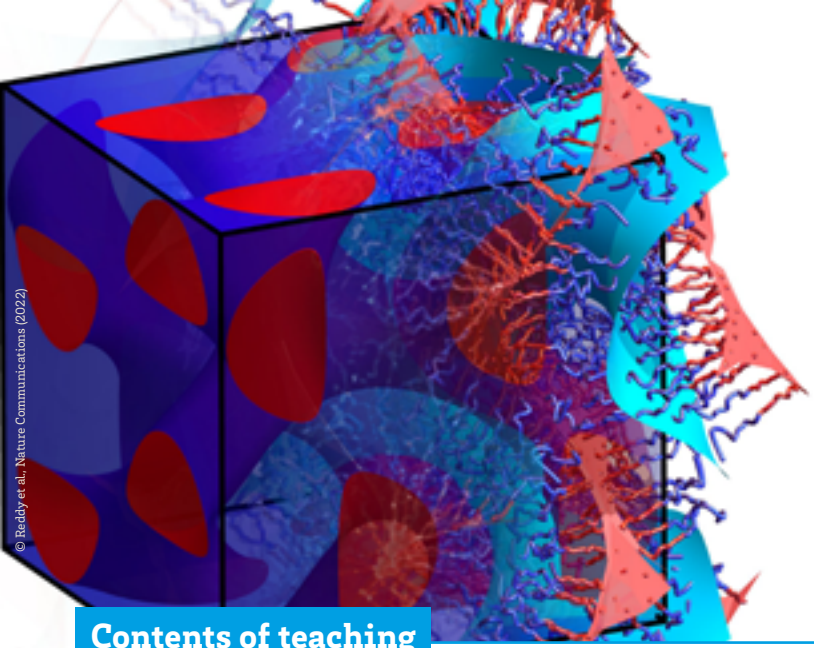
Target audience

The program is intended for motivated students with a strong background in chemistry, physical chemistry, materials science or related fields. **Candidates should demonstrate solid scientific fundamentals,** curiosity for research and innovation, and a strong interest in polymers. Admission is based on academic records and compliance with the entry requirements of partner universities.

Key strengths of the program

The DMIPS program is anchored in the complementary strengths of POLYMAT (University of the Basque Country) and LCPO (University of Bordeaux), internationally recognized centers for polymer research and teaching. Students benefit from courses taught by experts in polymer chemistry, physics and engineering, and from strong links with academic and industrial partners that enrich internships and research placements. The integrated research projects and internship placements with companies such as Arkema, Akzo-Nobel, DSM, GoodYear, Allnex and Solvay provide real-world experience and significantly enhance employability and doctoral study opportunities.





Contents of teaching

The curriculum spans **four semesters** and integrates fundamental and advanced polymer science. In the first year at the **University of the Basque Country / Euskal Herriko Unibertsitatea (EHU)** students take core courses such as Materials Science, Macromolecular Materials, Macromolecular Chemistry, Chemical & Physical Characterization of Macromolecules, and Polymer Physics, alongside a research project integrated in the POLYMAT research laboratory. In the second year at the **University of Bordeaux**, coursework includes Macromolecular Engineering, Self-Assembly, Latex & Emulsions, Functional Polymers and optional advanced topics in physics, processing and characterization. The final semester is dedicated to a research internship with academic or industrial partners.

Support structures

To support student success, the program offers academic guidance throughout mobility between partner institutions, with **shared courses** delivered in hybrid format so students can transition smoothly between EHU and University of Bordeaux. Research projects and internships are integrated into the curriculum, providing close supervision by faculty and access to research-oriented laboratories. Additional support includes orientation to **research methods, practical training in key polymer techniques**, and **career preparation** through exposure to industrial partners and project presentations.

Partnerships

The DMIPS double master is delivered jointly by the University of the Basque Country (Donostia-San Sebastián) and the University of Bordeaux (France), benefiting from their strong international networks.
Teaching and research are supported by leading polymer science centers including POLYMAT and LCPO, and by collaborations with industry partners. The program maintains **active contacts with major chemical and materials companies** that host thesis internships and participate in educational activities.

Career Training

- **part-time internship** spread over the second semester of the first year at EHU
- **compulsory research internship** in industry or academia in the final semester of the second year

And after?

Professional Integration:

Graduates of DMIPS find opportunities across **diverse sectors** where polymer expertise is critical, including:

- R&D Engineer in polymer and materials companies
- Technical Consultant for polymer applications
- Process Development Scientist
- Innovation Project Manager in industrial or consulting settings
- These functions span industries such as energy materials, advanced manufacturing, healthcare materials, coatings and formulations, and sustainable polymer solutions.

Further Studies:

Many graduates pursue **doctoral studies** (PhD) in polymer science and related fields, taking roles in **academic research or industrial research labs**. The strong research training and network fostered by the program provide excellent preparation for competitive PhD programs in Europe and internationally.

Graduate employment rate

75 %

of graduates pursue doctoral studies (PhD programs) following completion of the Master's degree.

Graduates seeking direct employment typically secure their first position within six months after graduation.

ID card

Diploma
› Master

Mention
› Chemistry

Parcours
› **Polymer Science.** An intensive two-year European program in polymer science delivering dual diplomas from University of the Basque Country and the University of Bordeaux. It offers advanced training in polymer design, processing and characterization, preparing graduates for high-level careers in industry, R&D, or PhD programs across Europe

Admission Requirements
› Hold a Bachelor degree (180 ECTS) in chemistry, chemical engineering, materials science, chemical physics or an equivalent degree.

Duration
2 years / 120 ECTS:
› 1st year at EHU
› 2nd year at University of Bordeaux

Total hours
› Around 35 hours per week from September to June

Organization of the master program
› Year 1 in San Sebastián (EHU): build strong foundations in polymer chemistry, physics, thermodynamics, and characterization, combined with a first research project.
› Year 2 in Bordeaux (University of Bordeaux): deepen expertise through advanced topics such as functional polymers, self-assembly, rheology and polymer engineering and processing.
› Benefit from international teaching, including shared EHU-University of Bordeaux courses and close interaction with leading research laboratories.
› Finish with a Master's thesis in academia or industry, with opportunities in top R&D labs across Europe.

Evaluation Methodss
› Assessment follows a standard Master's structure, combining written examinations, practical work, project reports and oral presentations.

Training location
› 1st year at EHU at San Sebastián campus
› 2nd year at University of Bordeaux at Talence campus

International
› A double Master's degree in Polymer Science with built-in international mobility between leading universities.
› Students are strongly encouraged to complete their Master's thesis abroad, benefiting from an extensive network of academic and industrial partners across Europe and beyond.
› This international exposure provides a multicultural learning environment and significantly enhances global career opportunities.

Number of available places: 12

Number of applicants: 60

Practical Information

Training location

- 1st year: University of the Basque Country (EHU) – Campus Donostia-San Sebastián
- 2nd year: University of Bordeaux (France) – Talence Campus

Admission Requirements

- Applicants must hold a Bachelor's degree (180 ECTS) in chemistry, chemical engineering, materials science, chemical physics, or an equivalent qualification. Pre-registration opens on February 1st.
- Further details on the application process are available at: **www.doublemasterinpolymerscience.com**

Contacts

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Learn more

www.doublemasterinpolymerscience.com

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Unité de formation Chimie / université de BORDEAUX

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