MASTER OF SCIENCE

Advanced Pharmaceutical Engineering (ADPHARMING)

MINES Albi-Carmaux

ACCREDITATION

Accredited by the French Ministry of Higher Education and Research.
Master n°20151034, Decree 2015, July 10.

KEY WORDS

Pharmaceutical Engineering, Management, Quality by Design, Lean management, Supply chain, Logistics, Industrial Engineering, Advanced Galenics.

SCHOOL PROPOSING THE MASTER

Mines Albi – In co-accreditation with Institut Mines-Télécom, Paris - France

INDUSTRIAL PARTNERS

Pfizer, Glaxo-Smith-Kline, Novartis, Eli-Lilly, Sanofi, Roche, Pierre Fabre, Servier, Teva, L'Oréal, Chanel, Merck, Bristol-Myers-Squibb, Astra-Zeneca, IPSEN...

LANGUAGE OF TEACHING

English

ENVIRONMENT

The fast growing Pharmerging markets will worth 50% of the global pharmaceutical market in 2020, with an annual growth of 15% a year. Most pharmaceutical industries will have to increase their production and supply chain, in accordance with the international regulations, and to develop new dosage forms, in line with the best world standards.

COURSE AIMS

ADPHARMING course offers challenging opportunities for students interested in developing a career in the pharmaceutical industry. ADPHARMING aims at developing a new kind of leaders with a global high-level training for R & D, drug production, quality management, lean management, logistics and supply chain, in the field of pharmaceuticals, cosmetics, biotechnology...

PROGRAM

This is a full-time program of 2 years divided into four semesters: courses over 3 semesters followed by an internship of one semester in a company or in a research laboratory.

First semester: Introduction, scientific and technological bases.

- Cultural and linguistic integration
- Introduction to the pharmaceutical industry
- Fundamental sciences for pharmacy
- Transfer phenomena and thermodynamics
- Bases of the pharmaceutical engineering
- Initiation to the corporate world, visits
- Generic tools for engineering
- *Project 1: Bibliography and presentation*

Semester 2: Bases of pharmaceutical engineering, project and production management.

- Pharmaceutical engineering today
- Pharmaceutical engineering: process engineering, modelling.
- Project management
- Production management
- Supply chain management
- Lean management
- Eco-design, circular economy, innovation
- Control systems, sensors
- French culture and language
- *Project 2: Research, modelling, industrial topics, innovation*

Semester 3: Advanced Pharmaceutical Engineering.

- Specificities of international pharmaceutical companies
- Regulatory agencies
- Good Manufacturing Practices
- Mechanism of drugs action
- QbD, PAT
- Green processes for pharmacy
- Pharmaceutical processes & development.
- Pharmaceutical engineering: dosage forms, advanced and innovative galenics.
- Quality management system, QRM
- Pharmaceutical environment (clean rooms...)
- French culture and language
- *Project 3: Research and/or industry oriented*

Semester 4: MSc Thesis.

- 6-month MSc thesis in Industry or in a research lab (France or international).

LOCATION

Mines Albi, France
The city of Albi is part of UNESCO's World heritage.

ADMISSION REQUIREMENTS

Participants must hold a four-year Bachelor of Science or Engineering degree with related major (Chemical Engineering, Chemical Sciences, Pharmaceutical Engineering, Pharmaceutical Sciences...) or an equivalent degree.
Participants holding a first industrial experience are also welcome.

LANGUAGE REQUIREMENTS

English: B2 Level

- Mother tongue or
- Study in an English-speaking country or
- English Langage Qualification such as :
  - TOEFL IBT 80,
  - ELTS 6.0,
  - TOEIC 750,
  - Cambridge CAE (Certificate of Advanced English).

French: A good knowledge of French language is not mandatory before arrival in France.

APPLYING

All applications should be made on-line :
➜ www.mines-albi.fr/adpharming
Applications are open from January to June each year.

STRONG POINTS OF THE SCHOOL/PROGRAM

- International Campus
- Masters taught entirely in English and in small groups
- Strong links with the industries
- 6-month master thesis in industry or in a research lab
- Master boosted by the research department RAPSODEE (CNRS UMR 5302)
- A quality-chartered "Welcome to International Students" package

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Advanced Pharmaceutical Engineering

- Scholarships based on academic excellence are available for outstanding candidates

COMPETENCIES ACQUIRED

- General knowledge of the pharmaceutical industry;
- An advanced knowledge of the applicable regulations and quality in the pharmaceutical field;
- An in-depth knowledge of the drug life cycle ;
- The ability:
  - to use state of the art sciences, technology and regulatory aspects to conceive and develop innovative drugs and advanced galenics.
  - to use process engineering to design pharmaceutical processes in a sustainable way;
  - to use lean management methods in the pharmaceutical and related fields.
  - to undertake projects in an international team environment.
  - to communicate with written reports and by oral presentation.
- The chance to learn French language and acquire French culture;
- The opportunity to enter a high-level career in the pharmaceutical industry or to continue for the preparation of a doctoral thesis.

TYPICAL JOBS

- R&D manager in advanced galenics
- Formulation project leader
- Quality system manager
- PAT project manager
- Pilot Plant manager
- Plant performance & process excellence manager
- Auditor, Consultant or Expert in the field
- Production Planner, Production Analyst
- Deputy Head of Bioproduction
- Lean project manager or leader
- Supply chain manager
- QA - Supplied Materials manager
- Technology transfer manager/supervisor

COST

9,000 euros per year

SCHOLARSHIP

Scholarships are available depending on academic records and countries of origin (companies, governments, embassies...).

Internships are paid and cover living expenses during the last semester.

DETAILS OF THE SCHOOL

Mines Albi - International students office -
Campus Jarlard - Route de Teillet -
81013 Albi cedex 09- France

CONTACT

Our knowledgeable staff will be happy to assist with any inquiries you may have.

Website

➜ **www.mines-albi.fr/adpharming**

Email

➜ **admission.adpharming@mines-albi.fr**

Tel. +33 5 63 49 33 49

CALENDAR

One intake per year in September.

- **Year 1 : Two academic semesters at Mines Albi.**
- **Year 2 : One academic semester at Mines Albi** + a 6-month Master thesis in industry and/or in a research lab.

LODGING

Individual furnished studio apartments are available for international students during their stay. The residences are located in Albi (our campus and city center) and offer all the comfort and facilities to the students. Living expenses are quiet low in Albi compared to other locations in France. Accommodation at the students' Residence : about 330 Euros per month.

The total amount does not exceed 6000 Euros per year (on campus food and accommodation).

INSTITUT MINES-TÉLÉCOM
INTERNATIONAL AFFAIRS

37-39 rue Dareau
75014 Paris
France

international@mines-telecom.fr

www.mines-telecom.fr

INSTITUT
Mines-Télécom