

Master 1

Development of Drugs and Health Products

+ Initial training

université
PARIS-SACLAY

GRADUATE SCHOOL

Health and
Drug Sciences

Prerequisites & Public

- + Bachelor of Sciences in Pharmacy, Biology, Chemistry or Biotechnology
- + PharmD, MD, continuing education

English proficiency: TOEFL, IELTS, Cambridge English Certificate or equivalent

- + International students
- + French students

Selection by admission jury

Application process

Application online at:

www.universite-paris-saclay.fr/en/education/master

- + Select « Pharmaceutical sciences »
- + Master's path: « Development of Drug and Health Products (D²HP) »

APPLICATION DEADLINE : MAY 1st 2023

Objectives

The M1 is intended to provide students with basic and advanced knowledge on:

- 1- The current major pathologies
- 2- The biotechnological, formulation and medicinal chemistry tools
- 3- The pharmaco-toxicological and analytical methods with extension to environmental impacts in order to implement diagnosis, treatment and prevention

Course objectives

Training of future managers in the pharmaceutical field with a versatile, scientific and technical expertise, and an opening-up to business life or research laboratories.

The programme includes courses into 3 axes:

- 1- Basic and advanced knowledge of the current diseases and the dysregulation of major functions
- 2- Pharmacist's toolbox: chemistry, biotechnology, formulation, production
- 3- Transversal methods: pharmaco-toxicological, analytical sciences

Professional skills

- + Scientific knowledge to understand the continuum from the discovery of a health product to a medicine
- + Identification of the current issues in the major pathologies
- + Knowledge of methodologies for the screening of therapeutic targets, the synthesis, formulation and production of health products, and the associated analytical control and biological tests
- + Project management
- + Oral and written communication

Assessment method

The assessment method, depending on the teaching units, will rely on written final exams, oral final exams or continuous evaluation.

Success rate: 100% (promotion 2020-2021)

Organization

The M1 is composed of core and optional courses, a research specialization course and a symposium.

The program is split into 3 axes:

- **Axis 1:** Current issues in the major pathologies
- **Axis 2:** Pharmacist's toolbox
- **Axis 3:** Transversal pharmaceutical disciplines

PROGRAM	ECTS
Core courses M1S1	
<ul style="list-style-type: none"> • 001 Cultural week • 101 Physiopathology of major functions • 102 Immunopathology and haemostasis dysregulations • 103 Cancer cell biology • 201 Pharmaceutical engineering 1 • 202 Biotechnology 1 • 300 Rush: Pharmaceutical business game • 301 Analytical sciences 1 	26
2 optional courses M1S1	
<ul style="list-style-type: none"> • 201b Pharmaceutical Engineering PW • 202a Biotechnology PW1: Gene cloning • 320 Hospital internship • 321 Marketing 1 	4
Core courses M1S2	
<ul style="list-style-type: none"> • 104 Infectiology • 203 The medicinal chemist's toolbox 1 • 302 Environment 1 • 303 Pharmacology 1 / Toxicology 1 	18
Research specialization course 1, M1S2	
<ul style="list-style-type: none"> • 002a Bibliographic work • 002b Lab internship • 323 Scientific English: oral and written communication 	8
Core courses M1S2	
<ul style="list-style-type: none"> • 104a Diagnosis of infectious diseases • 202b Biotechnology PW2: Bioreactors • 203a Basic structural elucidation applied to natural and synthetic compounds 	2
Research specialization course 2, M1S2	
+ 003 Symposium	2

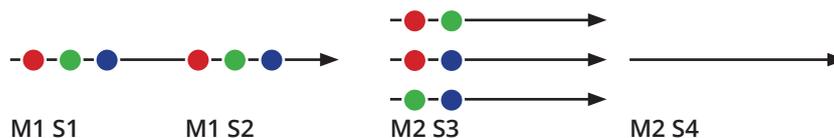
Toward the Master 2 D²HP

From the M1

- Axis 1
- Axis 2
- Axis 3

To the M2
3 specializations offered to students

1. Axis 1 + Axis 2
2. Axis 1 + Axis 3
3. Axis 2 + Axis 3



Start date : October

Duration : 2-year program

Informations

Heads

Dr. Dorine BONTE
Prof. Imad KANSAU
Dr. Éric MOREL
Prof. Véronique ROSILIO
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Secretary

Emeline PHILIPPE - emeline.philippe@universite-paris-saclay.fr
+33 (0)1 80 00 60 39

Main teaching location

Faculté de Pharmacie - Université Paris-Saclay - Orsay, France (91400)

More information:

<http://www.master-d2hp.universite-paris-saclay.fr/>

	EU Student	Non EU Student	Student holder of a UPSaclay bachelor
Student fees	4 243 €	6 243 €	243 €
CVEC *	95 €	95 €	95 €
Total **	4 338 €	6 338 €	338 €

Reduced tuition fees (fee waivers):

- Non-EU students with scholarship (BGF Campus France, Eiffel): 4000€
- Students with CROUS grant: 0€, full waiving

* compulsory fees to contribute to student life and campuses

** amount for 1 year.

Master 2

Development of Drugs and Health Products

+ Initial training

université
PARIS-SACLAY

GRADUATE SCHOOL

Health and
Drug Sciences

Prerequisites & Public

- + **M1 D²HP**, M1 in Global Health domains (Pharmacy, Biology, Chemistry or Biotechnology)
 - + PharmD, MD, continuing education
 - English proficiency:** TOEFL, IELTS, Cambridge English Certificate or equivalent
 - + International students
 - + French students
- Selection by admission jury

Application process

Application online at:

www.universite-paris-saclay.fr/en/education/master

- + Select « Pharmaceutical sciences »
- + Master's path: « Development of Drug and Health Products (D²HP) »

APPLICATION DEADLINE : MAY 1st 2023

Objectives

The M2 offers training in research and development of innovative medicines, drawing on the expertise of Paris-Saclay's researchers, and professionals:

- + 1- Development of biotechnology and innovative therapies for major diseases
- + 2- Design and production strategies for drug delivery systems applied to challenging small active pharmaceutical compounds and biomacromolecules
- + 3- Development of pharmaco-toxicological and analytical methods for evaluation of new therapeutic approaches and prediction of environmental issues

Course objectives

Students will be trained in drug and health product development with advanced courses on:

- + 1- Current and upcoming therapies for the major pathologies
- + 2- Updates in biotechnology, pharmaceutical engineering and medicinal chemistry (including nanomedicine and biomaterials)
- + 3- In-depth knowledge and applications of methods used in pharmacology, toxicology, analytical sciences, biomolecular modeling and bioinformatics

Professional skills

The M2 provides students with specific skills to promote their employability:

- + Identification of the major pathology issues to implement treatments and preventive measures
- + Determination of the structure of chemical compounds and implementation of technical processes for the development of new drugs
- + Application of experimental protocols according to good laboratory practice and ethical rules
- + Analysis and solving of complex scientific and technical problems
- + Organization, project management and communication
- + Personal development

Assessment method

The assessment method, depending on the teaching units, will rely on written final exams, oral final exams or continuous evaluation.

Success rate: not available yet, first promotion 2020-2021

Organization

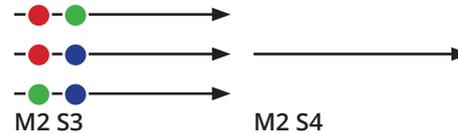
The M2 includes core and optional courses, group works, case studies, research specialization and a symposium.

The program is split into 3 axes:

- **Axis 1:** Current issues in the major pathologies
- **Axis 2:** Pharmacist's toolbox
- **Axis 3:** Transversal pharmaceutical disciplines

The students choose 2 axes out of the 3 proposed:

1. **Axis 1 + Axis 2**
2. **Axis 1 + Axis 3**
3. **Axis 2 + Axis 3**



PROGRAM	ECTS
Core courses M2S3, 2 axes out of 3	
<ul style="list-style-type: none"> • 105 Anti-infectious therapies • 106 Therapies of major function dysregulations • 107 Therapies of immune and haemostasis dysregulations • 108 Therapies in neurodegenerative diseases • 109 Therapies in oncology • 204 Pharmaceutical engineering 2 • 205 The medicinal chemist's toolbox 2 • 206 Biotechnology 2 • 304 Analytical sciences and data evaluation 2 / Environment 2 • 305 Pharmacology 2 / Toxicology 2 • 306 Biomolecular modeling / Bioinformatics 	22
Research specialization course 2, M1S2	
<ul style="list-style-type: none"> • 004 Research specialization 	2
3 optional courses M2S3	
<ul style="list-style-type: none"> • 105a Vaccinology • 105b Infections and immunosuppression • 204a Nanomedicine • 204b Biomaterials and applications • 205a Natural product chemodiversity • 206a Biotechnology PW3: Viral and non viral gene transfer comparison • 206b Biotechnology PW4: EPO production and purification • 304a Generate, organize, analyse and extract relevant information from experimental data • 304b Emerging analytical techniques • 325 Marketing 2 	6
Research internship M2S4	
<ul style="list-style-type: none"> • 005 Laboratory internship + symposium 	30

Career Prospects

- + PhD training and academic career
- + Drug evaluation in governmental / international agencies
- + Project manager in the following fields: pharmaceuticals, cosmetics, biotechnology, biomedical, regulatory, R&D, quality assurance and quality control
- + Clinical research investigator
- + Research engineer

Start date : September

Duration : 1-year program

Informations

Heads

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