**Heads**

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**Secretary**

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**Prerequisites**

- M1 D^2HP, M1 in Global Health domains (Pharmacy, Biology, Chemistry or Biotechnology)
- PharmD, MD, continuing education

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

**Public**

- International students
- French students

**Selection by admission jury**

**Application process**

Application online at:
www.universite-paris-saclay.fr/fr/formation/masters

Select Graduate School: « Health and Drugs »

- Master: « Drug Sciences and health products »
- Master’s path: « Development of Drugs and Health Products (D^2HP) »

**Application deadline:** May 31st 2020

**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
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:** Pharmacy and biotechnology
**Axis 3:** Transverse pharmaceutical disciplines

### Core courses M2S3, 2 axes out of 3 (22 ECTS)

105 Anti-infectious therapies
106 Therapies of major function dysregulations
107 Therapies of immune and hematologic 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

### Research specialization course M2S3 (2 ECTS)

004 Research specialization

### 3 optional courses M2S3 (6 ECTS)

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
320 Hospital internship
322 Rush: Pharmaceutical business game
325 Marketing 2
326 English 2

### Research internship M2S4 (30 ECTS)

005 Laboratory internship + symposium

### Perspectives

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