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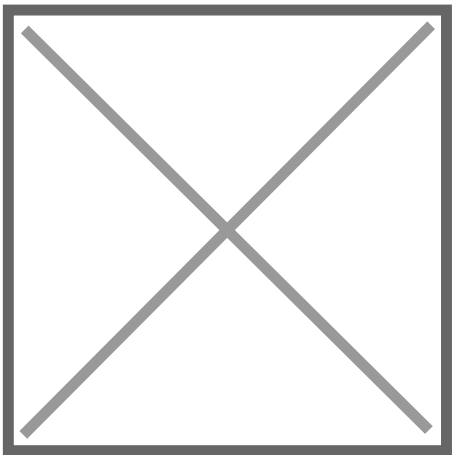
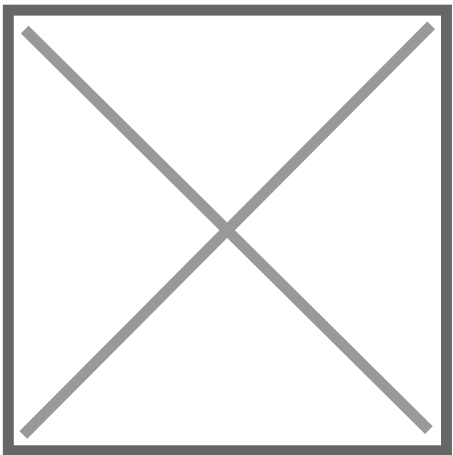
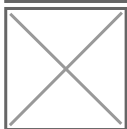
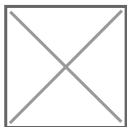
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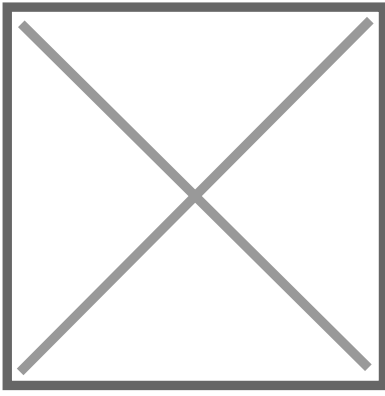
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Add to Compare

M2 Development of Drugs and Health Products





Master's degree

Specialisation Pharmaceutical Science

Enrolment type

Full-time academic programmes Life-long learning

Language(s) of instruction

English

The master D2HP "Development of Drugs and Health Products" is part of the path "Sciences du Médicament et des Produits de Santé" offered at the Université Paris-Saclay. It is an international master totally taught in English (M1 and M2) with a "research" purpose (pursuit of a Doctorate) or "professional" (direct integration into the socio-economic world at the master level).

In M1 and M2 D2HP, the program is divided into 3 axes:

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

The M2 is composed of 2 semesters:

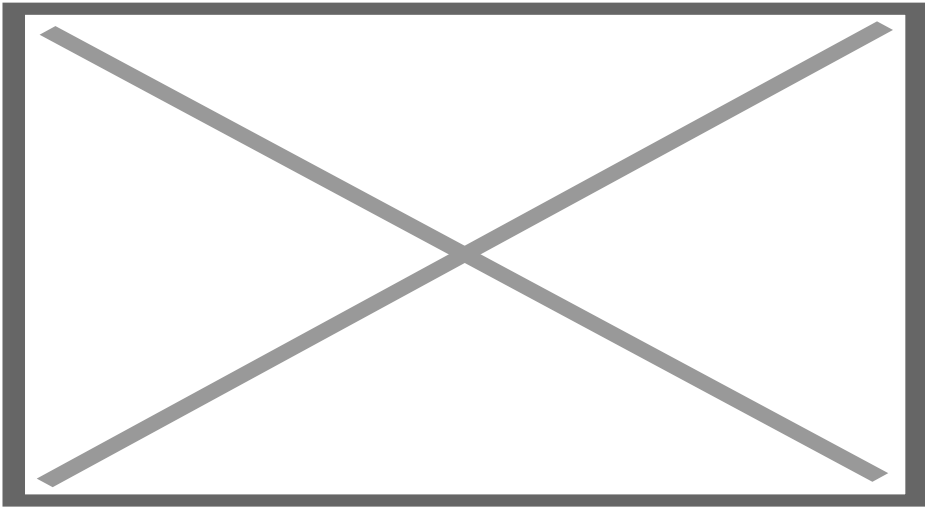
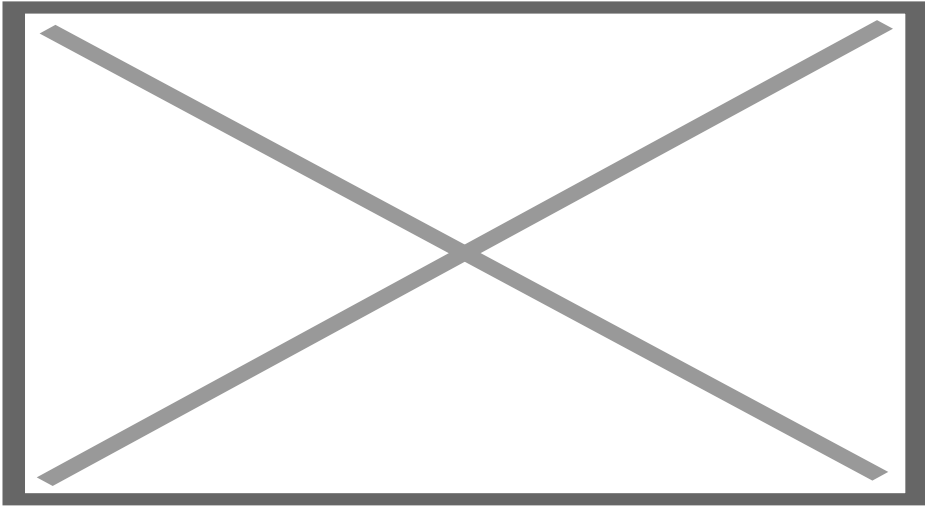
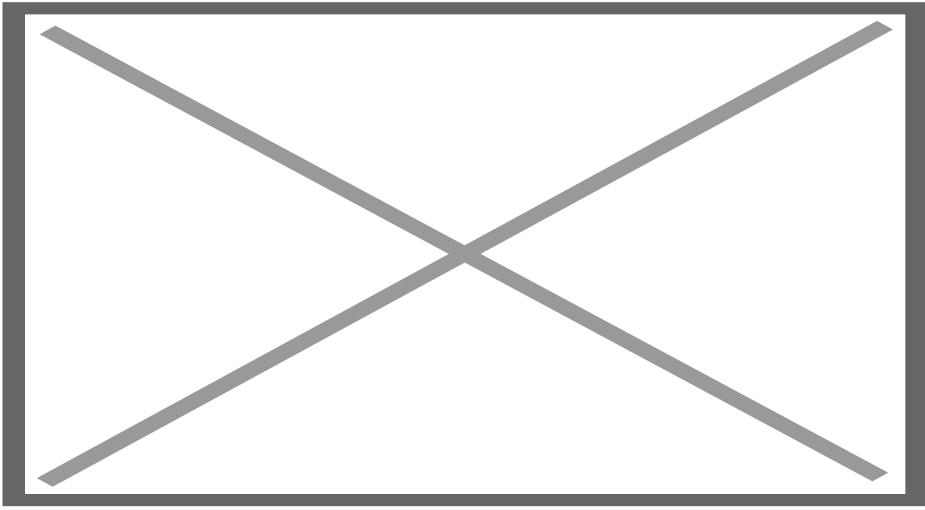
- the first semester offers theoretical and practical courses (including core and optional courses, group works, case studies and research specialization)
- and the second semester is dedicated to a 6-month internship. At the end of their internship, the students have to defend their master's thesis during an international symposium organized by the M1 D2HP students.

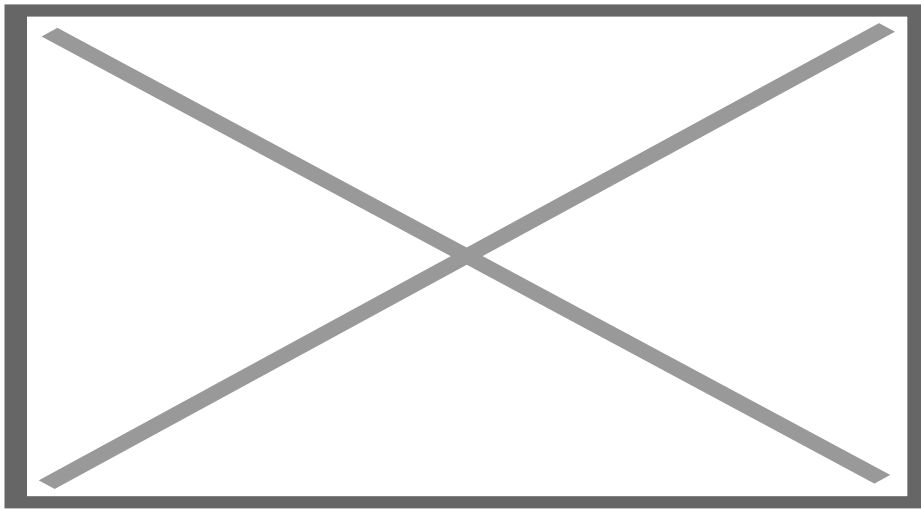
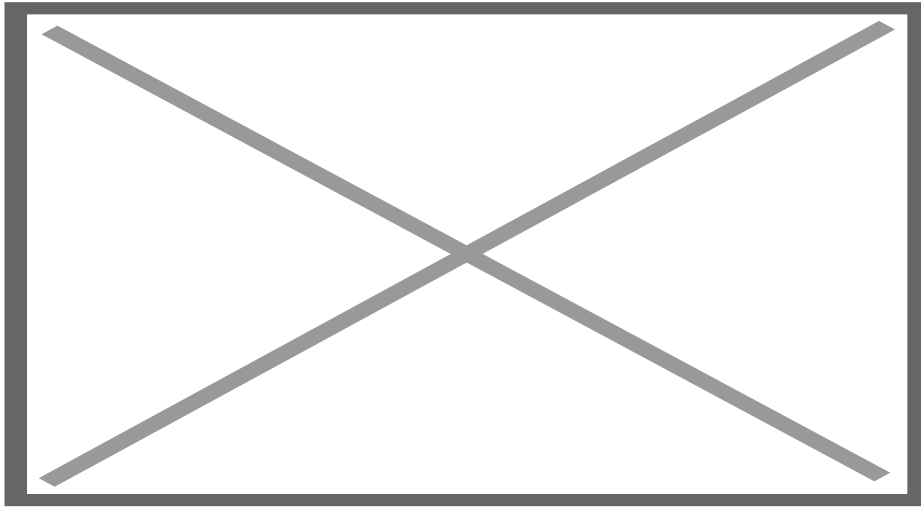
At the M2 level, the students specialize by choosing 2 of the 3 axes:

- 1- Axis 1 + Axis 2
- 2- Axis 1 + Axis 3
- 3- Axis 2 + Axis 3

[Télécharger la fiche détaillée](#)

[Apply Now](#)





■ ■

Information

- [Overview](#)
- [Application requirements](#)
- [Schedule](#)

Présentation

Skills

The M2 D2HP will allow the development of the following skills:

- Identify the current issues in major pathologies to implement treatments and adequate preventive measures
- Develop innovative therapies for major diseases
- Adapt our current approaches to the design and production of innovative medicines
- Evaluate new therapeutic approaches and predict environmental issues

- Develop biological models in pharmaco-toxicology
- Know the principles of scientific ethics
- Analyze and present the results of a scientific publication
- Develop one's critical thinking
- Use advanced and specialized digital tools
- Adapt communication for research, knowledge transfer or scientific popularization
- Work as a team
- Acquire project management skills
- Being able through their knowledge (hard and soft skills) to integrate into a team of collaborators in the public or private environment

Objectives

The objective of this multidisciplinary master D2HP is to train future managers in the pharmaceutical field with a versatile, scientific and technical expertise, and an opening-up to socio-economic world and/or research laboratories. The master provides advanced knowledge on the main pathologies and their underlying mechanisms in order to improve strategies to implement diagnosis, innovative treatment and prevention.

The M2 D2HP offers training in research and development of innovative medicines, drawing on the expertise of Paris-Saclay's researchers, and professionals of Paris-Saclay's ecosystem:

- 1- Development of biotechnology approaches 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 associated environmental issues

Débouchés

Career prospects

After a Master's + PhD: researcher or lecturer

After a Master's or Master's + PhD: researcher or lecturer

After a Master's or Master's + PhD: engineer (R&D, control, production, etc.)

After a Master's or Master's + PhD: engineer (research and development, control, production, etc.) in the fields of health, pharmaceuticals, agri-food, biotechnologies, instruments and reagents, cosmetics, pollution control and the environment.

Research Engineer

Design Engineer

Research & Development Engineer

Further Study Opportunities

PhD

Calendar

Start of programme (indicative date)

03/09/2026

Admission

Capacity

Available Places

30

Target Audience and Entry Requirements

Admission in M2 D2HP is possible for:

- students having validated the M1 D2HP or in a field related to Global Health (Biology, Chemistry, Biotechnology or Biochemistry) in a University offering a level of education comparable to that of the Université Paris-Saclay, in France or countries from the European Union (EU)
- PharmD, MD having validated the 5th year of study or an equivalence of M1 in France or EU countries
- students with an engineering degree in the field of Health with an equivalence of M1 in France or EU countries
- People in continuous training in the field of Health. The file will be evaluated on a case-by-case basis according to the professional project and career plan.

after validation of the specific knowledge prerequisites by the M2 co-heads

and after proof of English proficiency: TOEFL, IELTS, Cambridge certifications or equivalent

Période(s) de candidature

Inception Platform

From 21/01/2026 to 10/04/2026

Supporting documents

Compulsory supporting documents

Copy diplomas.

Copy of the last diploma.

Copy of passport.

Copy of identity document.

Referring contact information (compulsory for non-international applicants).

Motivation letter.

Letter of recommendation or internship evaluation.

List of other masters requested (excluding Saclay).

Document at your convenience.

Indicate sources of funding envisaged (own funding, funds from the country of origin, Campus France or Paris-Saclay scholarships, etc)

All transcripts of the years / semesters validated since the high school diploma at the date of application.

Certificate of English level.

Curriculum Vitae.

Cambridge English certificate ou equivalent.

If your studies were completed in English, a certificate of your university is sufficient.

Detailed description and hourly volume of courses taken since the beginning of the university program.

This item corresponds to the whole programme of each academic year.

Recommendation letters.

Additional supporting documents

VAP file (obligatory for all persons requesting a valuation of the assets to enter the diploma).

Supporting documents :

- Residence permit stating the country of residence of the first country
- Or receipt of request stating the country of first asylum
- Or document from the UNHCR granting refugee status
- Or receipt of refugee status request delivered in France
- Or residence permit stating the refugee status delivered in France
- Or document stating subsidiary protection in France or abroad
- Or document stating temporary protection in France or abroad.

Programme

Axis 1 - Current therapies in major pathologies

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
TU 12 Anti-infectious therapies	3	Semestre 1	24	3					



TU 12 Anti-infectious therapies

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 24

Directed study: 3

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered to the M2 master's degree

Programme/contents

virology, bacteriology, and parasitology :

virology :

Basic knowledge on commercialized antiviral molecules and vaccinal approaches

update on current and developing treatments
strategies for HIV, hepatitis viruses,
herpesviruses, coronaviruses, arbovirus, and ebola
viruses

viral resistance : emergence and strategies

1 seminar by an invited researcher in virology

Bacteriology:

Bacterial virulence factors and host response

The bacillus and pneumococci capsules, vaccinal
approaches

The intracellular bacteria : mycobacterium spp;
salmonella spp, Listeria spp, Shigella spp

Bacterial resistance to antibiotics

gene support and gene transfer

The human microbiota

the intestinal, cutaneous and others microbiota

study tools, functional metagenomic

Parasitology :

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
TU13 Therapies of cardiovascular dysregulations and beyond	2	Semestre 1	12						

TU13 Therapies of cardiovascular dysregulations and beyond

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 12

Project : 6

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered in the master D2HP, basis in cardiovascular physiology and some general basis of cardiovascular pathologies (acquired in D2HP TU3) : hypertension, ischemic diseases, heart failure

basis in pharmacology : affinity, activity, and selectivity of a pharmacological compound (acquired in D2HP TU11)

Programme/contents

Lecture courses will typically follow the 1,5 format session (8 sessions)

the current approved therapies will be covered , highlighting the molecular targets and mechanisms responsible for efficacy and adverse effects.

experts and researchers will present their research works on emerging therapeutic targets. They will introduce methodologies and models used in basic research

such topics will include:

cardiac metabolism

intracellular calcium handling

pathways downstream to receptors to signalling molecules

vascular targets to treat thrombo inflammatory disorders

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
TU 14 Therapies of immune and haemostasis dysregulations	2	Semestre 1	16	4					

TU 14 Therapies of immune and haemostasis dysregulations

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 16

Directed study: 4

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

To be enrolled in the M2 "Development of Drugs and Health Products"

Programme/contents

Classes :

Allergenic immunotherapy

immunotherapy in autoimmune diseases

therapies for hematologic malignancies

microbiota and immunotherapies

sepris : physiopathology and therapeutic targets

Sepsis-induced immunosuppression

NETs and immunothrombosis

Sepsis-associated coagulopathy : anticoagulant therapies and beyond

Learning objectives

Up-to date knowledge on immune intervention strategies, hemostasis regulation and inflammation control

Skills

Understand current and emerging therapeutic strategies used in the fields of immunopathology and thrombo-inflammation

Bibliography

Abbas AK, Lichtman AH, Pillai S, Basic

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
TU 15 Therapies in central nervous system diseases	2	Semestre 1	12	1.5					

TU 15 Therapies in central nervous system diseases

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 12

Directed study: 1.5

Project : 12

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered in the M2 master's degree

Programme/contents

Lectures and tutorials about recent research with the objective of developing innovative therapies for the treatment psychiatric illnesses or neurodegenerative diseases. Development of a research project presented as a poster

Learning objectives

Providing an overview of the several strategies available for the development of treatments for pathologies of the nervous system. Lessons will be provided as conferences. They will constitute the theoretical basis for student study groups in charge of the development of a research project. Each project will be presented as a poster including :

- the detailed objectives
- an in vitro and in vivo approach
- the presentation of the theoretical postive and negative results

Skills

Acquiring a global knowledge about the physiological and pathological functioning of the nervous system. Integrating the main elements presented in the conferences to use them in the research project answering a scientific question supported by the literature

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
TU 16 Therapies in oncology	2	Semestre 1	11.5	8.5					



TU 16 Therapies in oncology

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 11.5

Directed study: 8.5

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered to the M2 master's degree D2HP

Programme/contents

introduction

hormonotherapy

chemotherapy : tyrosine kinase inhibitors

cancer immunotherapies

predictive response to melanoma

immunotherapies

radiotherapy

chemotherapy : focus on tubulin poisons

Drug resistance, predictive markers

big data and personalized medicine

Learning objectives

A teaching Unit which follows the TU05 and proposes advanced knowledge in cancer therapy in complementary ways : diagnosis, molecular mechanisms, treatments, side effects, and drug resistance

Overall organisation

Tutorial : how to analyse/understand a paper,
Answers to questions regarding their paper analysis

Bibliography

Robert A, Weinberg, the biology of cancer 3rd edition, Norton and company 2022

Axis 2- Pharmacy and biotechnology

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
TU 17 Pharmaceutical engineering II	4	Semestre 1	18	14				

TU 17 Pharmaceutical engineering II

ECTS : 4

Semester: Semestre 1

Detail

Lecture: 18

Directed study: 14

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

To be enrolled in the Master Development of drugs and health products

Programme/contents

A Advanced formulation strategies and innovative drug delivery systems

- lipids and self assembly properties
- micellar solubilisation
- lipid based drug delivery systems
- other nanoparticles
- Cyclodextrins

3D printing for solid dosage forms

B in vitro and in vivo evaluation of colloidal drug delivery systems

- Biological barriers and routes of administration
- interaction of drug nanocarriers with cells
- 2D and 3D cell cultures and organoids
- in vivo models

C Case study

Students will work in groups (2 to 3 students per group) on simulated formulation and drug delivery challenges, applying the concepts covered in lectures to design, evaluate and present innovative pharmaceutical solutions

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
TU18 The medicinal chemist's toolbox II	3	Semestre 1	22	4				
■								

TU18 The medicinal chemist's toolbox II

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 22

Directed study: 4

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

To be enrolled in the M2 Development of Drugs and Health Products

Type of assessment

Evaluation Continue non Intégrale

TU 19 Biotechnology II	4	Semestre 1	30	3
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TU 19 Biotechnology II

ECTS : 4

Semester: Semestre 1

Detail

Lecture: 30

Directed study: 3

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered in the M2 master's degree D2HP

Programme/contents

Nucleic acids based diagnosis strategies, nucleic acids as therapeutics, vectorization

Development of therapeutic antibodies (production, purification, quality control), novel antibody based diagnosis and therapeutic strategies

New methodologies in biotechnology, molecular imaging critical analysis of results

conferences : Biotech start-up development , a case study

Learning objectives

To continue the overview of biotechnological technologies applied in healthcare from all the aspects ranging from molecular conception and bioproduction, to specific quality controls. In addition, students will be introduced to advanced biotechnological approaches, a necessity in this rapidly evolving field

Skills

critical analysis of scientific documents

capacity of adapting knowledge to new methodologies and concepts used in biotechnology, personal medicine, gene and cell therapy

relational collaborative and communication skills (written and oral)

Axis 3 - Transversal pharmaceutical subjects

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
TU 20 Analytical Sciences II	2	Semestre 1	7	15					
■									

TU 20 Analytical Sciences II

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 7

Directed study: 15

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

To be enrolled in the M2 Development of Drugs and Health Products

Type of assessment

Evaluation Continue non Intégrale

[TU 21](#)

Pharmacology / Toxicology II	5	Semestre 1	18	9.5
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Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
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TU 21 Pharmacology / Toxicology II

ECTS : 5

Semester: Semestre 1

Detail

Lecture: 18

Directed study: 9.5

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

To be enrolled in the M2 "Development of Drugs and Health Products"

Type of assessment

Evaluation Continue non Intégrale

[TU 22](#)

[Molecular](#)

[modelling and](#)

[artificial](#)

[intelligence in](#)

[drug design](#)

2

Semestre

1

6

TU 22 Molecular modelling and artificial intelligence in drug design

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 6

Tutored project 15

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Registration to the master D2HP

Type of assessment

Evaluation Continue non Intégrale

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
TU 23 Introduction to chemometrics	2	Semestre 1	4	12					
■									

TU 23 Introduction to chemometrics

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 4

Directed study: 12

Language(s) of instruction

Anglais

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

Elective teaching units

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
OTU 01 Diagnosis of infectious diseases	2	Semestre 2	2	6	12			

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
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OTU 01 Diagnosis of infectious diseases

ECTS : 2

Semester: Semestre 2

Detail

Lecture: 2

Practical study : 12

Directed study: 6

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered in the master's degree D2HP

Type of assessment

Evaluation Continue non Intégrale

[OTU 02](#)

[French as
foreign
language](#)

2	Semestre
2	2

OTU 02 French as foreign language

ECTS : 2

Semester: Semestre 2

Language(s) of instruction

Français

Remote teaching

non

Prerequisites

Being registered in the master D2HP

Type of assessment

Evaluation Continue non Intégrale

[OTU 03 Gene
cloning](#)

2	Semestre	2	20
	1		

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
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■

OTU 03 Gene cloning

ECTS : 2

Semester: Semestre 1

Detail

Practical study : 20

Directed study: 2

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered to the master's degree D2HP

Type of assessment

Evaluation Continue non Intégrale

[OTU 05](#)

Pharmaceutical engineering	2	Semestre 1	3	3	12
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■

OTU 05 Pharmaceutical engineering

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 3

Practical study : 12

Directed study: 3

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

To be enrolled in the Development of drugs and health products master

Type of assessment

Evaluation Continue non Intégrale

[OTU 11](#)

Vaccinology	2	Semestre 1
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Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
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■

OTU 11 Vaccinology

ECTS : 2

Semester: Semestre 1

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered to the master D2HP

Type of assessment

Evaluation Continue non Intégrale

[OTU 15](#) 2 Semestre
[Nanomedicine](#) 1

■

OTU 15 Nanomedicine

ECTS : 2

Semester: Semestre 1

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

To be enrolled in the master Development of Drugs and Health Products

Type of assessment

Evaluation Continue non Intégrale

[Free teaching](#) 2 Annualisé
[Unit X](#)

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	practical class	Lecture/practical class	directed study/practical class
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■

Free teaching Unit X

ECTS : 2
Semester: Annualisé
Language(s) of instruction
Français
Remote teaching
non
Overall organisation

Students can choose one of the OTU proposed in the master's programm or one from the teaching unit catalog that will be offered in September 2026.

Type of assessment
Evaluation Terminale

Research specialization

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	practical class	Lecture/practical class	directed study/practical class	di
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[RU 02](#)
[Initiation to Research specialization and grant application](#)

4
Semestre 1 0 13

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distance learning
■									

RU 02 Initiation to Research specialization and grant application

ECTS : 4

Semester: Semestre 1

Detail

Lecture: 0

Directed study: 13

Project : 15

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered to the M2 master's degree D2HP

Type of assessment

Evaluation Continue non Intégrale

Research internship

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distance learning
RU03 Internship	30	Semestre 2							
■									

RU03 Internship

ECTS : 30

Semester: Semestre 2

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Being registered to the M2 master's degree D2HP

Type of assessment

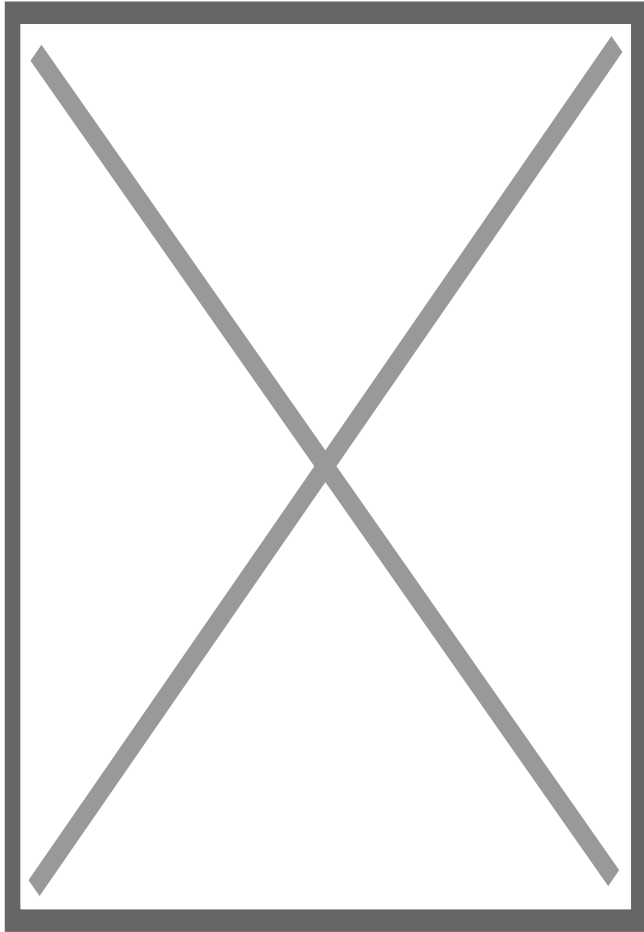
Evaluation Continue non Intégrale

Teaching Location(s)

ORSAY

Training campus

Javascript est requis pour visualiser cette carte.



Saclay Moulon

Saclay / Gif-sur-Yvette / Orsay

Bus 4606 / 4609 / 4611 / 5154

RER B Le guichet

[Voir](#)

Student restaurant (CROUS)

Library

Sports facilities

Student residence

Contact

- **Secrétariat pédagogique**

Manager

<http://www.universite-paris-saclay.fr/formation/master/sciences-du-medicament-et-des-produits-de-sante/m2-development-drugs-and-health-products>