

Physiology, epigenetics, differentiation and cancer 2nd year

Master in Biology



Target level
Baccalaureate
+5



ECTS
60 credits



Duration
1 year



Component
UFR Chimie-
Biologie



Language(s) of instruction
English

Presentation

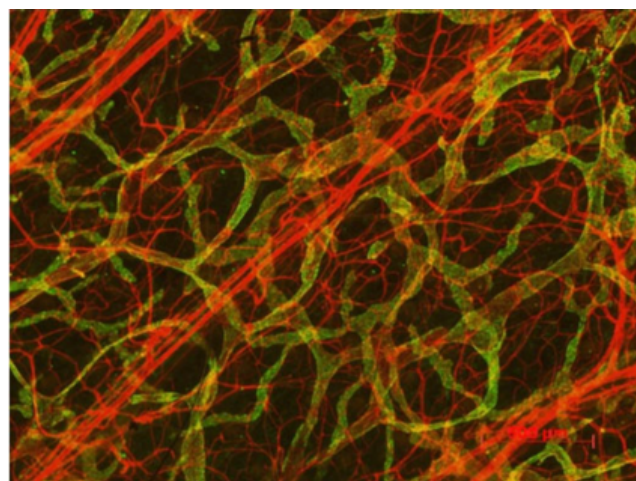
The students apply for admission in Master 2 (M2) Physiology, Epigenetics, Differentiation and Cancer (PhEDC) program following on a Master 1 (M1) Molecular and cellular biology program (MCB) at Université Grenoble Alpes or an equivalent M1 in another university. The first semester of the M1 MCB is common to all students of the Master in Biology. It is meant to complete the general scientific background of the enrolled students in various fields of biology (Physiology, Cell Biology, Genetics, Biochemistry...) while the second semester of M1 MCB introduces the students to the specific PhEDC program by offering them specialized courses and a 2-month internship in a laboratory.

The first semester of the M2 PhEDC includes 3 types of classes :

1. Specialized classes directly related to the topics of PhEDC program with specific emphasis on cell biology (cell identity and fate) and physiology. These courses will integrate the most recent advances concerning the mechanisms involved in the control of cell identity and the alterations associated with cancer phenotypes or aging.
2. Classes aiming at providing general knowledge or skills that are necessary to researchers (handling of a research project, entrepreneurship, English)

3. Optional classes proposing an initiation to other fields of biological sciences (neurosciences, biostatistics, high throughput biology..).

The second semester of the M2 PhEDC consists in a 6-month research internship in a Research laboratory.



The blood and lymphatic circulation networks in the mouse ear: a model for studying the development of blood vessels.
Laboratoire de Biologie du Cancer et de l'Infection, INSERM U1036, CEA Grenoble, Université Grenoble Alpes.

International education : Internationally-oriented programmes

International dimension

The 2nd year PhEDC program is taught in English.

Admission

Access conditions

Second year of the master's degree in Biology : to be eligible to apply, you should have completed (or you should be enrolled in) a first year of a master's degree in Sciences *i.e.* you should have validated 60 ETCS of a master's degree in Sciences by the end of your current academic year.

Public continuing education : You are in charge of continuing education :

- if you resume your studies after 2 years of interruption of studies
- or if you followed training under the continuous training regime one of the previous 2 years
- or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a [validation](#) of personal and professional achievements (VAPP).

Candidature / Application

Master 2 Physiology, epigenetics, differentiation and cancer

- 1st opening period for recruitment on e-candidat : **from 4th of march to 27th of march 2024 included**
- 2nd opening period for recruitment on e-candidat : **from 29th of april to 15th of may 2024 included**

Let us be your guide – simply follow this [link](#)

An interview will be proposed to the applicants to the first or second year of the master's degree in order to test their motivation.

Candidates from a foreign University, please see the admission requirements on the following [website](#)

Fees

UGA registration fees : 243 € + 100 € CVEC

And after

Further studies

Graduating from a master degree in Physiology, epigenetics, differentiation and cancer (PhEDC) leads to a career as a research engineer in academic or private laboratories. For the students interested in a career as a research scientist in academic institutions or in private pharmaceutical industries: consecutively to a master degree in Physiology, epigenetics, differentiation and cancer (PhEDC), the students may choose to continue with a PhD program offered by a french doctoral school or foreign universities, and related to the aforementioned fields of biology. After the obtaining of their PhD, the young researchers usually undertake one or two post-doctoral trainings of 2-3 years each, in France or foreign countries, in order to diversify their expertise. They can then apply to permanent positions as:

- Full time researchers at the national French organizations of research ("CNRS", "INSERM", "INRA", "IRD" etc)
- Project managers in R&D laboratories from private biotech companies
- Researchers-teachers in French or foreign universities

Useful info

Contacts

Program director

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Administrative contact

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Course location(s) - City

📍 Grenoble

Campus

🏠 Grenoble - University campus

Program

Master 2nd year

Semester 9

	Nature	CM	TD	TP	Crédits
UE Research project	Teaching Unit (UE)	6h	30h		6 credits
UE Ageing and longevity	Teaching Unit (UE)	25h	7h		6 credits
UE Cardiovascular physiology and integrated metabolism	Teaching Unit (UE)	15h	25h		6 credits
UE Epigenetics and cell differentiation	Teaching Unit (UE)	20h	20h		6 credits
UE Evo Devo and the green lineage	Teaching Unit (UE)	22,5h	18h		6 credits
UE Molecular biology of the cancer cell	UE	36h			6 credits
UE Ageing and longevity	UE	29h	7h		6 credits
UE Evolution & Development of Eukaryotes	UE	22,5h	18h		6 credits
UE Epigenetics and cell differentiation	UE	20h	20h		6 credits
UE Cardiovascular physiology and integrated metabolism	UE	15h	25h		6 credits
UE Molecular biology of the cancer cell	UE		12h		6 credits
UE High throughput Biology	Teaching Unit (UE)	30h	10h		6 credits
UE Biostatistics, bioinformatics, modeling (part II)	Teaching Unit (UE)	27h	12h		6 credits
UE Cancer disease : experimental and therapeutical approaches	Teaching Unit (UE)	30h	10h		6 credits
UE Neurophysiology	Teaching Unit (UE)	24h	13,5h		6 credits
UE Neurodegeneration and repair	Teaching Unit (UE)	18h	22h		6 credits
UE Synaptic Plasticity of the adult nervous system	Teaching Unit (UE)	27h	9h		6 credits

Semester 10

	Nature	CM	TD	TP	Crédits
UE Business plan of your start-up (entrepreneurship and science)	Teaching Unit (UE)	14h	10h		3 credits
UE Laboratory internship PhEDD (part II)	Teaching Unit (UE)				24 credits
UE Communication in scientific english (part II)	Teaching Unit (UE)				3 credits
UE Transverse teaching of choice	Teaching Unit (UE)				3 credits