

# Molecular and cellular biology 1st 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 Master of Molecular & Cellular Biology welcomes students with a bachelor of Science from France or any other place of the world who want to obtain a very high level of training in Cellular and Molecular Biology. All courses include lectures and tutorials linked to related research developed in Grenoble. In addition to a solid knowledge in many areas of biology, you will develop skills in project management, analysis of experimental data and oral & written presentation. You will also naturally progress in English, an indispensable language for any kind of professional career. The Master 1 program includes a 2-months internship which will give you a strong experience in the professional world.

The Master 1 MCB opens to the following M2 training program to start a scientific career in academic labs or R&D in private companies.

- Microbiology, infectious diseases and immunology program
- Structural biology of pathogens program
- Neurosciences, neurobiology program
- Physiology, epigenetics, differentiation and cancer program
- Pro2Bio program (taught partly in French and partly in English)

It opens also to sales-oriented M2 program

- Biologie et techniques de commercialisation program (taught in French)
- Science trading program (International program)

**For a general view of the Master of Biology, please watch the following video :**

<https://www.youtube.com/watch?v=5ISHb9rNBL8>

**International education** : Internationally-oriented programmes

## Admission

### Access conditions

First year master's degree : If you have completed a bachelor's degree in Science or are enrolled in the final semester of a bachelor's program in Science, you are eligible to apply for the master's degree in Biology.

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

**Recruitment campaign from 26th of february to 24 of march 2024 included** with [monmaster.gouv.fr](https://monmaster.gouv.fr)

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](#)

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## Fees

UGA registration fees : 243 € + 100 € CVEC

## Useful info

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### Contacts

Program director

Emmanuelle Tillet

✉ [emmanuelle.tillet@cea.fr](mailto:emmanuelle.tillet@cea.fr)

Administrative contact

Scolarité Master Biologie

✉ [ufrchimiebiologie-master-biologie@univ-grenoble-alpes.fr](mailto:ufrchimiebiologie-master-biologie@univ-grenoble-alpes.fr)

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### Course location(s) - City

📍 Grenoble

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### Campus

🏠 Grenoble - University campus

# Program

## Organization

The Master in Molecular & Cellular Biology starts with a common core in which students will acquire solid knowledge in gene expression regulation (Molecular Genetics and epigenetics of the cell; 6 ECTS) and biochemistry (Chemistry & Biochemistry; 6 ECTS). The first year of Master MCB is highly remarkable for its extensive hands-on-experience where students are given the chance to perform a lot of experiments (Driving Experimentation in Biology; 18 ECTS). Students build their own scientific project starting from the design of the project, followed by 3 weeks of experimentation in a dedicated lab at UGA.

An introduction to the world of business, its issues and its functioning will be offered to you (3 ECTS)

## Specifics of the program

The Master Molecular & Cellular of Biology is entirely taught in English and welcomes students with a bachelor of science from France or any other place of the world.

### Master 1st year

#### Semester 7

	Nature	CM	TD	TP	Crédits
UE Molecular Genetics and Epigenetics controls	Teaching Unit (UE)	31,5h	13,5h	4h	6 credits
UE Chemistry and Biochemistry	Teaching Unit (UE)	30h	20h		6 credits
UE Driving Experimentation in Biology	Teaching Unit (UE)	3h		150h	18 credits

#### Semester 8

	Nature	CM	TD	TP	Crédits
UE Laboratory internship (part I)	Teaching Unit (UE)				6 credits
UE Development and differentiation	Teaching Unit (UE)	29h	18h		6 credits
UE Metabolic physiology and pathophysiology	Teaching Unit (UE)	27h	20h		6 credits

UE How to become a cancer cell	Teaching Unit (UE)	30h	20h		6 credits
UE Neurological bases of the Emotions and Motivation	Teaching Unit (UE)	32h	8h	6h	6 credits
UE Drug action and drug design	Teaching Unit (UE)	22,5h	15h	9h	6 credits
UE Immunobiology	Teaching Unit (UE)	39h	9h		6 credits
UE Infectious diseases (part I)	Teaching Unit (UE)	34,5h	15h		6 credits
UE Functional anatomy of the central nervous system	Teaching Unit (UE)	33h	12h		6 credits
UE Macromolecular engineering	Teaching Unit (UE)	22,5h	15h	9h	6 credits
UE Bacteriology	Teaching Unit (UE)	27h	18h		6 credits
UE Molecular bases of the normal and pathological memory	Teaching Unit (UE)	36h	12h		6 credits
UE English course	Teaching Unit (UE)		24h		3 credits
UE Transverse teaching of choice	Teaching Unit (UE)				3 credits
UE Analytical and spectroscopic methods II	Teaching Unit (UE)	13,5h			3 credits
UE Connaissance de l'entreprise et des métiers	Teaching Unit (UE)				3 credits