

Parcours Biochemistry and Structure 2e année

Master Biologie



Niveau d'étude
visé
Bac +5



ECTS
60 crédits



Durée
1 an



Composante
UFR Chimie-
Biologie



Langue(s)
d'enseignement
Anglais

Présentation

Structural Biochemistry: A Center of Excellence in Grenoble

The Biochemistry and Structure master's program provides cutting-edge knowledge in biochemistry, biophysics, and molecular biology, leveraging an exceptional learning environment close to renowned Grenoble-based institutes such as IBS, CEA, IAB, and CERMAV, as well as world-class facilities like the ESRF, ILL, and international institutions such as EMBL.

Students will have the opportunity to explore the molecular level through our state-of-the-art 3D teaching facility, where they will learn advanced techniques in biochemistry and structural biology from experts in various fields, including X-ray crystallography, cryo-electron microscopy (cryo-EM), nuclear magnetic resonance (NMR), and single-molecule techniques. They will also gain insight into the latest advancements in artificial intelligence (AI) applied to biochemistry and structural biology.

Throughout the program, students will develop an integrated understanding of biological processes at the molecular level through real-world examples drawn from research in biochemistry and structural biology. This in-depth knowledge is essential for exploring applied fields such as drug design, protein engineering, and systems biology.

The importance of studying biomolecules at the atomic level—to enhance their properties, inhibit their function, or exploit

them to our advantage—has been recognized by more than eight Nobel Prizes over the past decade.

By the end of this master's program, students will have a comprehensive understanding of the experimental approaches used in the biochemical and structural characterization of biological macromolecules.

This training will prepare them to embark on a doctoral project in the field of integrated structural biology, equipped with the skills and expertise necessary for cutting-edge research.

Formation internationale : Formation tournée vers l'international

Admission

Conditions d'admission

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

Master 2 Structural Biology of Pathogens

- Opening period for recruitment : **from 3th of march to 28th of march 2025** with e-candidat
- Opening period for recruitment : **from 22th of april to 16th of may 2025** with e-candidat

You want to apply and sign up for a course master ? Please be aware that the procedure differs depending on the diploma you want to take, the diploma you have already obtained and, for foreign students, your place of residence. Let us be your guide – simply follow this [🔗](#) link

Droits de scolarité

UGA registration fees 2024 / 2025 : 250 € + 103 € CVEC

Et après

Poursuite d'études

Graduating from a master degree in Integrated structural biology 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 Integrated structural biology, the students may choose to continue with a PhD program depending from a French doctoral school or foreign universities and related to the aforementioned fields of biology. Consecutively to their PhD, the young researchers undertake one or two post-doctoral trainings of 2-3 years each, usually in 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
- Part time researchers, part time teachers in French or foreign universities

Infos pratiques

Contacts

Responsable pédagogique

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Gestionnaire de scolarité

Scolarité Master Biologie

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Lieu(x) ville

📍 Grenoble

Campus

🏠 Grenoble - Domaine universitaire

Programme

Master 2e année

Semestre 9

	Nature	CM	TD	TP	Crédits
UE Research project	UE	6h	30h		6 crédits
UE Structure determination of biological macromolecules	UE	19h	12h	10h	6 crédits
UE Integrative structural cell biology	UE	27h	7h	12h	6 crédits
UE Recent advances and applications in structural biology	UE	30h	10h		6 crédits
UE High throughput Biology	UE	36h			6 crédits
UE Biostatistics, Bioinformatics, Modeling , Part II	UE	27h	12h		6 crédits
UE Fundamental and Medical Microbiology	UE		30h		6 crédits

Semestre 10

	Nature	CM	TD	TP	Crédits
UE Business plan of your start-up (entrepreneurship and science)	UE	14h	10h		3 crédits
UE Laboratory internship ISB (part II)	UE				24 crédits
UE Anglais	UE		28h		3 crédits
UE ETC	UE				3 crédits