

# Master of Science in Biology

Academic contacts :

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Dpt of Genetics & Evolution

## Physical and computational Biology (PCB)

Name :

Student number :

Code	Course	ECTS	Semesters A/P/AN	Courses Selection	ECTS
<b>Mandatory</b> safety days ! Registration will take place in November for the autumn semester and in March for the spring semester.					
14B012	Scientific Writing and Communication ( <b>mandatory</b> )	4	A	✓	4
14B673	Research Training (equivalent to 320h)	16	P	✓	16
<b>Core courses (6-9 ECTS)</b>					
14B063A*	Microscopy and Imaging	3	A		
14B057A	Statistics & Probability	3	A		
14X026 ●	Data Science	6	A		
<b>PCB Mandatory courses (31–34 ECTS from the three blocks)</b>					
<b>● Biology (between 6 - 15 ECTS)</b>					
14B010	Principles of Cellular and Molecular Biology	8	AN		
14B017	Master Course in Genetics, Development and Evolution	9	AN		
13B009	Bioinformatics II Subtitle: Modeling biological complexity and diversity	6	A		
14B657	Phylogeny and molecular evolution	4	AN		
24N01	Principles of neurobiology	6	A		
<b>● Computer Science/Mathematics (at least 6 ECTS)</b>					
14M197	Modèles mathématiques pour les humains et les animaux	6	A		
14M53	Modélisation mathématique avec application à la biologie	6	?		
24N13	Trends in Computational Neuroscience	3	P		
14X011	Information Retrieval	4	P		
14X013	Métaheuristiques pour l'optimisation	6	A		
14X015	Modeling and simulation of natural and social phenomena	6	P		
14X050 ●	Deep learning	6	A		
14X061 ●	Graph Algorithms	5	P		
14X062 ●	Computational Imaging	5	P		
<b>● Physics (at least 5 ECTS)</b>					
14P017	Biophotonics	5	P		
14P034	Introduction to the Physics of biology	5	P		
14B084	Physics of Biological Systems: from cells to tissues	3	A		
14P063	Principles of pattern formation	5	A		
<b>Total (minimum 60 ECTS credits)</b>					

\*Pre-registration required with the course instructor. Please check the "programme des cours" website for registration details.

● **Prérequis:** être titulaire du BASC (ou équivalent) / **Prerequisite:** A Bachelor of Science (BASC) degree or an equivalent

**Signatures :**

<b>Student</b>
<b>Date:</b>

<b>Academic Advisor of the Section</b>
<b>Date:</b>

<b>Academic Coordinator for the PCB Track</b>
<b>Date:</b>