ETH zürich **D** INFK | **D** MATH | **D** ITET

Master's Program in Data Science – Interdisciplinary Electives Computational Biology, Bioinformatics and Biomedicine

Students must decide for <u>one</u> specific area within the Interdisciplinary Electives and attend at least two courses worth 8-12 credits within this area.

The course compilation Computational Biology, Bioinformatics and Biomedicine introduces students to quantitative modeling and data analysis at a complexity level adapted to living systems. The unprecedented recent development of experimental methods with the generation of large-scale datasets, as well as the increasing need to analyze and design highly complex biological systems has opened a new frontier of research with fundamental scientific challenges.

Basic Courses

Number	Title	Credits	Semester	Language
227-0945-10L	Cell and Molecular Biology for Engineers	6	spring	EN

Advanced Bioinformatics Courses

Number	Title	Credits	Semester	Language
636-0017-00L	Computational Biology	6	autumn	EN
261-5112-00L	Algorithms and Data Structures for Population	3	autumn	EN
	Scale Genomics			
636-0702-00L	Statistical Models in Computational Biology	6	spring	EN
262-0200-00L	Bayesian Phylodynamcis	4	spring	EN
261-5113-00L	Computational Challenges in Medical	2	spring	EN
	Genomics			
263-5351-00L	Machine Learning for Genomics	5	spring	EN

Advanced Biomedicine Courses

Number	Title	Credits	Semester	Language
227-0391-00L	Medical Image Analysis	3	spring	EN
261-5120-00L	Machine Learning for Health Care	5	spring	EN
262-0200-00L	Bayesian Phylodynamcis	4	spring	EN
261-5113-00L	Computational Challenges in Medical	2	spring	EN
	Genomics			

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