

MSc CBB: Study Plan

(Programme Regulations 2017)

The signed study plan is binding and must be submitted to the student administration (student-admin@bsse.ethz.ch) *by the end of the first semester at the latest*. Changes in the study plan require written approval by the mentor. An updated, signed version of the study plan must be submitted after changes have been made.

Students are responsible to ensure their study plan complies with the study regulations.

Student Name:	
Student Nr:	
Mentor Name:	

Additional Requirements (if applicable)				
Mind the deadlines for completing additional requirement courses!				
Course Nr.	Course Title	ECTS	Semester	Year

Note: updated information on course modalities – especially regarding streaming/recording offers – can be found in the current course catalogue.

Core Courses – 40 ECTS total, minimum 1 ECTS in every subcategory.					
Closed list. No other course can be added as a core course. Also, the assignment of the courses to the respective subcategories cannot be changed.					
Course Nr.	Course Title	University	ECTS	Semester	Year
Bioinformatics					
Note: courses marked with an asterisk (*) are mutually exclusive courses and only one of the courses can be counted towards the degree.					
636-0017-00L	Computational Biology*	ETH	6	Autumn	
262-6110-00L	Bioinformatics Algorithms	Unibas <i>Course Nr. 45401-01</i>	4	Autumn	
636-0009-00L	Evolutionary Dynamics	ETH	6	Autumn	
262-6100-00L	Evolutionary Genetics *	Unibas <i>Course Nr. 25600-01</i>	4	Autumn	
401-6282-00L	Statistical Analysis of High-Throughput Genomic and Transcriptomic Data	UZH <i>Module Code STA426</i>	5	Autumn	
Biophysics					
262-6106-00L	Current Topics in Biophysics	Unibas <i>Course Nr. 25661-01</i>	6	Autumn	
636-0104-00L	Biophysical Methods	ETH	4	Autumn	
529-0004-00L	Classical Simulation of (Bio)Molecular Systems	ETH	6	Autumn	
151-0980-00L	Biofluidynamics	ETH	4	Spring	
262-5100-00L	Protein Biophysics	UZH <i>Module Code BCH304</i>	6	Spring	
Biosystems					
636-0007-00L	Computational Systems Biology	ETH	6	Autumn	
636-0117-00L	Mathematical Modelling for Bioengineering and Systems Biology	ETH	4	Autumn	

636-0706-00L	Spatio-Temporal Modelling in Biology	ETH	4	Autumn	
636-0016-00L	Computational Systems Biology: Stochastic Approaches	ETH	4	irregularly	
636-0111-00L	Synthetic Biology I	ETH	4	Spring	
Big Data **					
Note: only one of the listed machine learning courses can be taken within the Big Data category. If students complete both IML and AML, the courses may both count towards the degree if one of them is taken in the Big Data core course category and the other in the Advanced Course Theory category.					
636-0101-00L	Systems Genomics	ETH	4	Autumn	
227-0447-00L	Image Analysis and Computer Vision	ETH	6	Autumn	
252-0535-00L	Advanced Machine Learning**	ETH	10	Autumn	
262-6190-00L	Machine Learning**	Unibas Course Nr. 17165-01	8	Spring	
252-0220-00L	Introduction to Machine Learning**	ETH	8	Spring	
636-0702-00L	Statistical Models in Computational Biology	ETH	6	Spring	
551-0364-00L	Functional Genomics	ETH/UZH	3	Spring	
Mandatory CBB Seminar (the seminar will be offered in Basel in Autumn and in Zurich in Spring)					
636-0704-00	Computational Biology and Bioinformatics Seminar	ETH	2		

Advanced Courses – 30 ECTS in total

List in ETH course catalogue. Other courses may be added as advanced courses upon approval of the mentor. This may also include courses from the core course category that are not already taken as such.
Attention: Not in case of mutually exclusive courses (Exception: IML or AML, see above).

Course Nr.	Course Title	University	ECTS	Semester	Year
Theory – minimum 16 ECTS					
Biology – minimum 10 ECTS					

Science in Perspective (SiP) – 2 ECTS

List in the ETH course catalogue. A D-BSSE specific SiP course is offered in Basel in the spring.

Course Nr.	Course Title	ECTS	Semester	Year

Lab Rotations – 18 ECTS

Select

- Lab Rotation Short 1 and Lab Rotation Short 2 (6 weeks each)
- Lab Rotation Short 1 and Industry Internship Short (6 weeks each)
- Lab Rotation Long (12 weeks)
- Industry Internship Long (12 weeks)

At least one lab rotation must be completed in a different group/company department than the master's thesis.

Course Nr.	Course Title	ECTS	Semester	Year
262-0300-00L	Lab Rotation Short 1	9		
262-0301-00L	Lab Rotation Short 2	9		
262-0302-00L	Industry Internship Short	9		
262-0303-00L	Lab Rotation Long	18		
262-0304-00L	Industry Internship Long	18		

Master's Thesis – 30 ECTS

A research project of 24 weeks duration, including a written report and an oral presentation. Note the prerequisites to starting the master's thesis.

Course Nr.	Course Title	University	ECTS	Semester	Year
262-0800-00L	Master's Thesis		30		

Date:	Date:
Signature Mentor:	Signature Student: