

Course Tables

Table 1. The number and type of units		
Index	Units type	Credit units
1	Compensatory	6
2	Mandatory	10
3	Optional	8
4	Thesis	18
sum of man/opt/thesis units		36

Table 2. Compensatory Courses*

Index	Course Title	Number of units			Total Hours			Prerequisite
		Theoretical	Practical	Total	Theoretical	Practical	Total	
1	Principles of Biochemistry	2	0	2	32	0	32	
2	Advanced Topics in Molecular Biology	2	0	2	32	0	32	
3	Bioinformatics	2	0	2	32	0	32	
4	Statistics and Probability	2	0	2	32	0	32	
5	Data Structures and Algorithms	2	0	2	32	0	32	
6	Computer Basics and Programming	2	0	2	32	0	32	
7	Molecular Biophysics	2	0	2	32	0	32	
TOTAL		14	0	14	192	0	192	

* The student can choose at most six units from this table according to supervisor's suggestions

Table 3. Mandatory Courses

Index	Course Title	Number of units			Total Hours			Prerequisite
		Theoretical	Practical	Total	Theoretical	Practical	Total	
1	Advanced Bioinformatics	2	1	3	32	32	64	
2	Algorithms in Bioinformatics	3	0	3	48	0	48	
3	Biological Databases	2	1	3	32	32	64	
4	Seminar in Bioinformatics	1	0	1	16	0	16	
TOTAL		8	2	10	128	64	192	

Table 4. Optional Courses*

Index	Course Title	Number of units			Total Hours			Prerequisite
		Theoretical	Practical	Total	Theoretical	Practical	Total	
1	Biochemistry of Cellular Signaling	2	0	2	32	0	32	
2	Computational genomics	1	1	2	16	32	48	
3	Structural bioinformatics	2	0	2	32	0	32	
4	Computational drug Design	2	0	2	32	0	32	
5	Chemoinformatics	2	0	2	32	0	32	
6	Chemometrics	2	0	2	32	0	32	
7	Machine Learning	2	0	2	32	0	32	
8	Complex Networks	2	0	2	32	0	32	
9	Modeling Metabolic Networks	2	0	2	32	0	32	
10	Molecular Evolution and Phylogenetics	2	0	2	32	0	32	
11	Molecular Modeling	2	0	2	32	0	32	
12	Stochastic Processes	2	0	2	32	0	32	
13	Introduction to Dynamical Systems	2	0	2	32	0	32	
14	DNA Computing	2	0	2	32	0	32	
15	Evolutionary Algorithms	2	0	2	32	0	32	
16	Bayesian Statistics	2	0	2	32	0	32	
17	Pattern Recognition	2	0	2	32	0	32	
18	Design and Analysis of Algorithm	2	0	2	32	0	32	
19	Multivariate Analysis	2	0	2	32	0	32	
20	Enzyme Kinetics	2	0	2	32	0	32	
21	Genomics and Gene Regulation	2	0	2	32	0	32	
22	Biomolecular Recognition	2	0	2	32	0	32	
23	Special Topics in Bioinformatics	2	0	2	32	0	32	
24	Advanced Data Mining	2	0	2	32	0	32	
25	Cell and Molecular Mechanism of Cancer	2	0	2	32	0	32	
26	Data Mining in Medical Systems	2	0	2	32	0	32	
27	Modeling of Biological Systems	2	0	2	32	0	32	
Total		53	1	54	848	32	880	

* The student can choose at most eight units from this table according to supervisor's suggestions