

*** Talented Program in Biology (Dated September 30th, 2015)**

Total credits of curriculum:	166 credits
- General education knowledge	33 credits
- Basic courses	2 credits
- Fundamental courses	36 credits
- Core courses	43 credits
<i>Required:</i>	<i>31 credits</i>
<i>Elective:</i>	<i>12/33 credits</i>
- Advanced courses	52 credits
<i>Required:</i>	<i>26 credits</i>
<i>Elective:</i>	<i>12 credits</i>
<i>Undergraduate thesis:</i>	<i>14 credits</i>

Available curriculum

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
I		General education knowledge <i>(Not including subjects 11-13)</i>	33				
1	PHI1004	<i>Fundamental Principles of Marxism - Leninism 1</i>	2	24	6		
2	PHI1005	<i>Fundamental Principles of Marxism - Leninism 2</i>	3	36	9		PHI1004
3	POL1001	<i>Ho Chi Minh Ideology</i>	2	20	10		PHI1005
4	HIS1002	<i>The Revolutionary Line of the Communist Party of Vietnam</i>	3	42	3		POL1001
5	INT1003	<i>Introduction to Informatics 1</i>	2	10	20		
6	INT1005	<i>Introduction to Informatics 3</i>	2	12	18		INT1003
7	FLF2101	<i>General English 1</i>	4	16	40	4	
8	FLF2102	<i>General English 2</i>	5	20	50	5	FLF2101
9	FLF2103	<i>General English 3</i>	5	20	50	5	FLF2102
10	FLF2104	<i>General English 4</i>	5	20	50	5	FLF2103
11		<i>Physical Education</i>	4				
12		<i>National Defence Education</i>	8				
13		<i>Soft Skills</i>	3				
II		Basic courses	2				
14	PHY1051	Basic Logic	2	20	6	4	
III		Fundamental courses	36				
15	MAT1290	<i>Linear Algebra</i>	4	45	15		
16	MAT1291	<i>Calculus 1</i>	4	45	15		
17	MAT1292	<i>Calculus 2</i>	4	45	15		MAT1291

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
18	MAT1101	<i>Probability and Statistics</i>	3	27	18		MAT1291
19	MAT1259	<i>Differential Equations</i>	2	20	10		MAT1292
20	PHY1159	<i>General Physics 1</i>	3	42	3		MAT1291
21	PHY1161	<i>General Physics 2</i>	3	42	3		MAT1291
22	PHY1104	<i>General Physics Practice</i>	2		30		PHY1159
23	CHE1080	<i>General Chemistry</i>	3	42		3	
24	CHE1069	<i>General chemistry Lab</i>	2		30		CHE1080
25	CHE1081	<i>Organic Chemistry</i>	3	42		3	CHE1080
26	CHE1057	<i>Analytical chemistry</i>	3	42		3	CHE1080
IV		Core courses	43				
IV.1		Required	31				
27	BIO2390	<i>English in Biology</i>	3	30	10	5	FLF2104
28	BIO2501	<i>Cell Biology</i>	4	40	15	5	
29	BIO2502	<i>Molecular Biology</i>	4	40	15	5	BIO2501
30	BIO2500	<i>Biochemistry</i>	4	40	15	5	BIO2501

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
31	BIO1153	<i>Genetics</i>	4	40	15	5	BIO2501
32	BIO2503	<i>Microbiology</i>	4	40	15	5	BIO1153
33	BIO2406	<i>Biostatistics</i>	3	15	30		MAT1101
34	BIO2504	<i>Human and Animal Physiology</i>	3	25	15	5	BIO2501
35	BIO2208	<i>Tropical Ecology and Conservation</i>	2	5	25		BIO3202
IV.2		<i>Elective</i>	12/33				
36	BIO2207	<i>Developmental Biology</i>	3	25	15	5	BIO2501
37	BIO2210	<i>Biophysics</i>	3	30	10	5	BIO2501 PHY1161
38	BIO2209	<i>Biodiversity</i>	3	30	10	5	BIO3504
39	BIO2092	<i>Biological Nomenclature</i>	3	40		5	BIO3201
40	BIO2212	<i>Proteomics and Structural Biology</i>	3	40		5	BIO2500
41	BIO2044	<i>Applied Microbiology</i>	3	40		5	BIO2503
42	BIO2512	<i>Marine Biology</i>	3	40		5	BIO3202
43	BIO2511	<i>Principles of Conservation Biology</i>	3	40		5	BIO3201
44	BIO2513	<i>Invertebrate Zoology in Aquarium</i>	3	40		5	BIO3201

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
45	BIO3426	<i>Plants and Humanity</i>	3	40		5	BIO3504
46	BIO3304	<i>Genetic Engineering</i>	3	30	10	5	BIO1153
V		Advanced courses	52				
V.1		Required	26				
47	BIO3504	<i>Botany</i>	5	45	24	6	BIO2501
48	BIO3201	<i>Invertebrate Zoology</i>	3	27	15	3	BIO2501
49	BIO3202	<i>Vertebrate Zoology</i>	3	27	15	3	BIO2501
50	BIO2508	<i>Plant Physiology</i>	3	30	10	5	BIO3504
51	BIO3204	<i>Human Biology</i>	3	30	10	5	BIO2504
52	BIO3205	<i>Basic Ecology</i>	3	30	10	5	BIO3202
53	BIO3206	<i>Immunology</i>	3	40		5	BIO2500
54	BIO3237	<i>Evolutionary Biology</i>	3	30	10	5	BIO1153
V.2		Elective	12				
V.2.1		Intensive subjects (Students select subjects in intensive group)					

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
		Group A: Molecular Biology and Cell	9/27				
55	BIO3207	<i>Principles of molecular genetics</i>	3	30	10	5	BIO1153
56	BIO3208	<i>Principles of genetic breeding</i>	3	30	10	5	BIO1153
57	BIO3209	<i>Human Genetics</i>	3	30	10	5	BIO1153
58	BIO3210	<i>Biochemistry of Bioactive Compounds</i>	3	40		5	BIO2500
59	BIO3211	<i>Enzymology</i>	3	30	10	5	BIO2500
60	BIO3213	<i>Medical Microbiology</i>	3	30	12	3	BIO2503
61	BIO3214	<i>Principles of Molecular Microbiology</i>	3	30	12	3	BIO2503
62	BIO3124	<i>Seminars in Stem Cells</i>	3	10	30	5	BIO2501
63	BIO3327	<i>Tumor Biology</i>	3	30	10	5	BIO2501
		Group B: Biological body	9/27				
64	BIO3217	<i>Plant Cell and Tissue Technology</i>	3	40		5	BIO2508
65	BIO3248	<i>Plant Growth and Development</i>	3	40		5	BIO2508
66	BIO3095	<i>Microalgae Physiology</i>	3	40		5	BIO3504
67	BIO3097	<i>Fungal Physiology</i>	3	40		5	BIO3504

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
68	BIO3220	<i>Basic Endocrinology</i>	3	40		5	BIO2504
69	BIO3221	<i>Reproductive Physiology</i>	3	40		5	BIO2504
70	BIO3222	<i>Human Molecular Biology</i>	3	40		5	BIO2502
71	BIO3223	<i>Nutrition</i>	3	40		5	BIO2504
72	BIO3224	<i>Neurobiology</i>	3	40		5	BIO2504
		Group C: Population Biology	9/36				
73	BIO3096	<i>Morphological evolution of angiosperm</i>	3	40		5	BIO3504
74	BIO3225	<i>Botanical Nomenclature</i>	3	40		5	BIO3504
75	BIO3226	<i>Plant Research Methods</i>	3	25	15	5	BIO3504
76	BIO3172	<i>Medical Invertebrate Zoology</i>	3	40		5	BIO3201
77	BIO3228	<i>General Entomology</i>	3	30	10	5	BIO3201
78	BIO3229	<i>General Hydrobiology</i>	3	30	10	5	BIO3201
79	BIO3230	<i>Biogeography</i>	3	40		5	BIO3202
80	BIO3243	<i>Applied Ecology</i>	3	40		5	BIO3202

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
81	BIO3232	<i>Fisheries Biology</i>	3	30	10	5	BIO3202
82	BIO3242	<i>Population Biology</i>	3	40		5	BIO3202
83	BIO3233	<i>Ecosystem Management</i>	3	40		5	BIO3205
84	BIO3234	<i>Environmental Ecology</i>	3	40		5	BIO3205
V.2.2		<i>Supplement</i>	3/12				
85	BIO3302	<i>Introduction to Biotechnology</i>	3	40		5	BIO2500
86	BIO3301	<i>Bioinformatics</i>	3	30	10	5	BIO2500
87	BIO3339	<i>Environment and Sustainable Development</i>	3	40		5	BIO3205
88	BIO3436	<i>Basic virology</i>	3	40		5	BIO2503
V.3		Undergraduate thesis	14				
89	BIO2505	<i>Annual Essay</i>	2	5	5	20	
90	BIO4076	<i>Scientific essay</i>	2	10	20		

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
91	BIO4077	<i>Graduation thesis</i>	10				
		Total	166				