

Biology Curriculum for Graduate 2023-2024

1. First Stage

First semester

| Module | The number of hours | | The number of credits |
|-------------------|---------------------|-----------|-----------------------|
| | Theoretical | Practical | |
| Cytology | 2 | 2 | 3 |
| Biophysics | 2 | 2 | 3 |
| Organic Chemistry | 2 | 1 | 3 |
| Mathematics | 2 | 0 | 2 |
| Computer 1 | 2 | 2 | 1 |
| Human Rights | 2 | 0 | 2 |
| Biosafety | 1 | 0 | 1 |
| English Language | 2 | 0 | 2 |
| Total | 15 | 7 | 17 |

Second semester

| Module | The number of hours | | The number of credits |
|-----------------------|---------------------|-----------|-----------------------|
| | Theoretical | Practical | |
| Genetics | 2 | 2 | 3 |
| Paleontology | 2 | 2 | 3 |
| Analytical Chemistry | 2 | 2 | 3 |
| Biostatistics | 2 | 0 | 2 |
| Computer 2 | 2 | 2 | 1 |
| Freedom and Democracy | 2 | 0 | 2 |
| Physical Education | 2 | 0 | 0 |
| Biosecurity | 1 | 0 | 1 |
| Total | 15 | 8 | 15 |

2. Second Stage

First semester

| Module | The number of hours | | The number of credits |
|--------------------|---------------------|-----------|-----------------------|
| | Theoretical | practical | |
| Invertebrates | 2 | 2 | 3 |
| Entomology | 2 | 2 | 3 |
| Biochemistry 1 | 2 | 2 | 3 |
| Plant Groups | 2 | 2 | 3 |
| Plant Anatomy | 2 | 2 | 3 |
| Computer Science 1 | 2 | 2 | 1 |
| English Language | 2 | 0 | 2 |
| Total | 14 | 12 | 18 |

Second semester

| Module | The number of hours | | The number of credits |
|------------------------------|---------------------|-----------|-----------------------|
| | Theoretical | Practical | |
| Parasitology | 2 | 2 | 3 |
| Bacteriology | 2 | 2 | 3 |
| Biochemistry 2 | 2 | 2 | 3 |
| Biodiversity and Development | 2 | 2 | 3 |
| Biosystematics | 1 | 2 | 3 |
| Computer Science 2 | 2 | 0 | 1 |
| Total | 11 | 10 | 16 |

3. Third Stage

First semester

| Module | The number of hours | | The number of credits |
|----------------------|---------------------|-----------|-----------------------|
| | Theoretical | Practical | |
| Ecology | 2 | 2 | 3 |
| Microbial Physiology | 2 | 2 | 3 |
| Plant Physiology | 2 | 2 | 3 |
| Antibiotics | 2 | 2 | 3 |
| Immunology | 2 | 2 | 3 |
| Histology | 2 | 2 | 3 |
| Total | 12 | 12 | 18 |

Second semester

| Module | The number of hours | | The number of credits |
|---------------------------------|---------------------|-----------|-----------------------|
| | Theoretical | practical | |
| Pollution | 2 | 2 | 3 |
| Medicinal Plants | 2 | 2 | 3 |
| Mycology | 2 | 2 | 3 |
| Animal Physiology | 2 | 2 | 3 |
| Serology and Vaccines | 2 | 2 | 3 |
| Scientific Research Methodology | 2 | 2 | 1 |
| English Language | 2 | 0 | 2 |
| Total | 14 | 12 | 18 |

4. Fourth Stage

First semester

| Module | The number of hours | | The number of credits |
|--|---------------------|-----------|-----------------------|
| | Theoretical | practical | |
| Food Microbiology | 2 | 2 | 3 |
| Embryology | 2 | 2 | 3 |
| Molecular Biology and Bacterial Genetics | 2 | 2 | 3 |
| English Language | 2 | 0 | 2 |
| Parasitic Helminthology | 2 | 2 | 3 |
| Pathogenic Bacteria | 2 | 0 | 3 |
| Total | 12 | 8 | 17 |

Second semester

| Module | The number of hours | | The number of credits |
|---------------------------------|---------------------|-----------|-----------------------|
| | Theoretical | Practical | |
| Genetic Engineering | 2 | 2 | 3 |
| Biotechnology | 2 | 2 | 3 |
| Virology | 2 | 2 | 3 |
| Aquatic and Soil Microbiology | 2 | 2 | 3 |
| Clinical Analyses | 2 | 2 | 3 |
| Comparative Anatomy of Chordata | 2 | 2 | 3 |
| Research Project | 0 | 2 | 4 |
| Total | 12 | 14 | 22 |