# Medical Biotechnology
# Degree: Master of Science (M.Sc.)

**Table 1. Prerequisite Courses**

| Course Code | Title of the Course | Credits | | | Teaching Hours | | | Prerequisite courses |
|---|---|---|---|---|---|---|---|---|
| | | Theoretical Credit | Practical Credit | Total Credits | Theoretical Hours | Practical Hours | Total Hours | |
| 01 | Medical Information Systems* | 0.5 | 0.5 | 1 | 9 | 17 | 26 | - |
| 02 | Pathobiology (Microbiology and Immunology) | 3 | - | 3 | 51 | - | 51 | - |
| 03 | Special English | 2 | - | 2 | 34 | - | 34 | - |
| 04 | Research Methodology | 0.5 | 0.5 | 1 | 9 | 17 | 26 | - |
| 05 | Culture of Animal Cells | 1 | 1 | 2 | 17 | 34 | 51 | - |
| Total | | 9 | | | | | | |

*This course is necessary for all students.

**Table 2. Core Courses**

| Course Code | Title of the Course | Credits | | | Teaching Hours | | | Prerequisite courses |
|---|---|---|---|---|---|---|---|---|
| | | Theoretical Credit | Practical Credit | Total Credits | Theoretical Hours | Practical Hours | Total Hours | |
| **06** | Cellular and Molecular Biology | 2 | - | 2 | 34 | - | 34 | - |
| **07** | Medical Biochemistry | 2 | - | 2 | 34 | - | 34 | - |
| **08** | Principles of Standardization and Safety of Biological Products | 1 | - | 1 | 17 | - | 17 | - |
| **09** | Genetic Engineering (Theory) | 2 | - | 2 | 34 | - | 34 | - |
| **10** | Genetic Engineering (Practice) | - | 2 | 2 | - | 68 | 68 | 08, 09 |
| **11** | Principles of Working with Laboratory Animals | 1 | 1 | 2 | 17 | 34 | 51 | - |
| **12** | Bioinformatics | 1 | 1 | 2 | 17 | 34 | 51 | - |
| **13** | Immunochemistry and Analysis Methods | 2 | 1 | 3 | 34 | 34 | 68 | 07 |
| **14** | Seminar 1 | 1 | - | 1 | 17 | - | 17 | - |
| **15** | Medical Genetics | 2 | - | 2 | 34 | - | 34 | - |
| **16** | Thesis | | | 10 | | | | |

**Table 3. Non-core (Electives) Courses**

| Course Code | Title of the Course | Credits | | | Teaching Hours | | | Prerequisite courses |
|---|---|---|---|---|---|---|---|---|
| | | Theoretical Credit | Practical Credit | Total Credits | Theoretical Hours | Practical Hours | Total Hours | |
| **17** | Introduction to Nanobiotechnology | 1 | - | 1 | 17 | - | 17 | - |
| **18** | Biosafety, Ethics and Law | 1 | - | 1 | 17 | - | 17 | - |
| **19** | Principles of Economy and Intellectual Property | 1 | - | 1 | 17 | - | 17 | - |
| **20** | Seminar 2 | 1 | - | 1 | 17 | - | 17 | - |

Students should select 2 credits from table 3 in accordance with the regulations set by the supervisor and the post-graduate committee of the university.