

**Outcomes Based Education (OBE) Framework**  
**Two Year Full Time Graduate Program**  
**M.Sc. Molecular Biology and Human Genetics**

| FIRST YEAR: Semester: 1 |   |                       |          |           |           |
|-------------------------|---|-----------------------|----------|-----------|-----------|
| Course Code             | Course Title  | No. of hours per week |          |           | Credits   |
|                         |   | Lecture               | Tutorial | Practical |           |
| MBH 501                 | Cell Biology  | 3                     | -        | -         | 3         |
| MBH 503                 | Biomolecules  | 3                     | -        | -         | 3         |
| MBH 505                 | Human Genetics  | 3                     | -        | -         | 3         |
| MBH 507                 | Molecular Biology I                                   | 3                     | -        | -         | 3         |
| MBH 509                 | Human Genetics  | -                     | -        | 8         | 3         |
| MBH 511                 | Molecular Biology                                     | -                     | -        | 8         | 3         |
| MBH 513                 | Soft Skills (Tutorials/ Seminar/Review paper writing) | -                     | 3        | -         | 2         |
|                         | <b>Total</b>  | <b>12</b>             | <b>3</b> | <b>16</b> | <b>20</b> |

| FIRST YEAR: Semester: 2 |   |                       |          |           |           |
|-------------------------|---|-----------------------|----------|-----------|-----------|
| Course Code             | Course Title  | No. of hours per week |          |           | Credits   |
|                         |   | Lecture               | Tutorial | Practical |           |
| MBH 502                 | Immunology and Immunogenetics                         | 3                     | -        | -         | 3         |
| MBH 504                 | Molecular Medicine                                    | 3                     | -        | -         | 3         |
| MBH 506                 | Molecular Biology II                                  | 3                     | -        | -         | 3         |
| MBH 508/<br>MBH 510     | Cancer Biology/<br>Mathematics & R Programming        | 3                     | -        | -         | 3         |
| MBH 512                 | Cell Biology  | -                     | -        | 8         | 3         |
| MBH 514                 | Molecular Diagnostics                                 | -                     | -        | 8         | 3         |
| MBH 516                 | Soft Skills (Tutorials/ Seminar/Review paper writing) | -                     | 3        | -         | 2         |
|                         | <b>Total</b>  | <b>12</b>             | <b>3</b> | <b>16</b> | <b>20</b> |

| SECOND YEAR: Semester: 3 |   |                       |          |           |           |
|--------------------------|---|-----------------------|----------|-----------|-----------|
| Course Code              | Course Title  | No. of hours per week |          |           | Credits   |
|                          |   | Lecture               | Tutorial | Practical |           |
| MBH 601                  | Biostatistics and Bioinformatics                            | 3                     | -        | -         | 3         |
| MBH 603                  | Recombinant DNA Technology                                  | 3                     | -        | -         | 3         |
| MBH 605                  | Research Methodology  | 3                     | -        | -         | 3         |
| MBH 607/<br>MBH 609      | Bioclinical Genetics /<br>Quality Assurance & Accreditation | 3                     | -        | -         | 3         |
| MBH 611                  | Biostatistics and Bioinformatics                            | -                     | -        | 6         | 2         |
| MBH 613                  | Laboratory Rotation   | -                     | -        | 6         | 2         |
| MBH 615                  | Review Article  | -                     | -        | 6         | 2         |
| MBH 617                  | Soft Skills (Tutorials/ Seminar/Review paper writing)       | -                     | 3        | -         | 2         |
|                          | <b>Total</b>  | <b>12</b>             | <b>3</b> | <b>18</b> | <b>20</b> |

| SECOND YEAR: Semester: 4 |   |                       |          |           |           |
|--------------------------|---|-----------------------|----------|-----------|-----------|
| Course Code              | Course Title  | No. of hours per week |          |           | Credits   |
|                          |   | Lecture               | Tutorial | Practical |           |
| MBH 602                  | Seminar/Presentation & Progress                                       | -                     | -        | 8         | 4         |
| MBH 699                  | Research Project/ Submission of dissertation/Submission of manuscript | -                     | -        | 32        | 16        |
|                          | <b>Total</b>  |                       |          | <b>40</b> | <b>20</b> |