**POKHARA UNIVERSITY**

**Master of Science in Bioinformatics**

**Curricular Structure**

M. Sc. Bioinformatics program at Pokhara University aims to provide knowledge and skills to generate, store, retrieve, analyze and interpret biological information. It provides opportunity to develop knowledge and skills in acquisition, storage, retrieval, analysis, and interpret of molecular data to determine and/or solve biological problems. It is a two-year program spread over four semesters. A student needs to successfully complete 45 credit hours of course work and 15 credit hours of research project for graduation.

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| **Semester I** | | | |
| **Course Code** | | **Course Description** | **Credit Hours** |
| BIN 501 | | Bioinformatics I | 3 |
| STT 501 | | Biostatistics | 3 |
| MTH 501 | | Mathematics and Algorithm for Bioinformatics | 3 |
| CMS 501 | | Computer Science | 3\* |
| CMB 501 | | Cell Biology | 3\* |
| CMB 502 | | Molecular Biochemistry | 3 |
|  | |  | **15** |
|  | |  |  |
| **Semester II** | | | |
| **Course Code** | | **Course Description** | **Credit Hours** |
| BIN 551 | | Bioinformatics II | 3 |
| BIN 552 | | Programming for Bioinformatics | 3 |
| CMB 551 | | Frontiers in Molecular Biology | 3 |
| CMB 552 | | Functional Genomics | 3 |
| RES 551 | | Directed Research I | 3 |
|  | |  | **15** |
|  | |  |  |
| **Semester III** | | | |
| **Course Code** | | **Course Description** | **Credit Hours** |
| BIN 601 | | Bioinformatics III | 3 |
| BIN 602 | | Data Warehouse and Data Mining | 3 |
| BIN 603 | | Molecular Modeling and Drug Design | 3 |
| RES 601 | | Directed Research II | 3 |
|  | | Elective Course | 3 |
|  | |  | **15** |
|  | |  |  |
| **Semester IV** | | | |
| **Course Code** | **Course Description** | | **Credit Hours** |
| BIN 699 | Thesis | | **15** |
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\* Students are required to take either CMB 501: Cell Biology (without biological science background) or CMS 501: Computer Science (with biological science background).