**MSc- Mathematics Scheme of study**

**Department of Mathematical Sciences,**

**University of Lakki Marwat, Lakki Marwat, KP, Pakistan**



**University of Lakki Marwat, Lakki Marwat**

**Khyber Pukhtunkhwa**

## **List of M.Sc. Mathematics Courses**

**First Year**

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| **Semester-I** |
| **S. N** | **Course Code** | **Course Title** | **Cr. Hrs** |
| 1 | MATH-312 | Advanced Calculus | 3(3 + 0) |
| 2 | MATH-311 | Ordinary Differential Equation | 3(3 + 0) |
| 3 | MATH-313 | Linear Algebra | 3(3 + 0) |
| 4 | MATH-314 | General Topology | 3(3 + 0) |
| 5 | MATH-315 | Mathematical Computing Tools | 3(3 + 0) |
|  **Total** | **15(15 + 0)** |

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| **Semester-II** |
| **S. N** | **Course Code** | **Course Title** | **Cr. Hrs** |
| 1 | MATH-326 | Real Analysis | 3(3 + 0) |
| 2 | MATH-322 | Complex Analysis | 3(3 + 0) |
| 3 | MATH-323 | Mathematical Methods | 3(3 + 0) |
| 4 | MATH-324 | Group Theory | 3(3 + 0) |
| 5 | MATH-325 | Rings and Field | 3(3 + 0) |
|  **Total** | **15(15 + 0)** |

**Second Year**

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| **Semester-III** |
| **S. N** | **Course Code** | **Course Title** | **Cr. Hrs** |
| 1 | MATH-411 | Functional Analysis-I | 3(3 + 0) |
| 2 | MATH-422 | Numerical Analysis-I | 3(3 + 0) |
| 3 | MATH-423 | Integral Equations | 3(3 + 0) |
| 4 | MATH-XXX | Elective-I | 3(3 + 0) |
| 5 | MATH-XXX | Elective-II | 3(3 + 0) |
|  **Total** | **15(15 + 0)** |

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| **Semester-IV** |
| **S. N** | **Course Code** | **Course Title** | **Cr. Hrs** |
| 1 | MATH-421 | Probability Theory | 3(3 + 0) |
| 2 | MATH-422 | Functional Analysis-II | 3(3 + 0) |
| 3 | MATH-423 | Partial Differential Equation | 3(3+0) |
| 4 | MATH-XXX | Elective-III | 3(3 + 0) |
| 5 | MATH-XXX | Elective-IV | 3(3 + 0) |
| 6 | MATH-499 | Viva Voce | 3(3 + 0) |
|  **Total** | **18(18 + 0)** |

## **Elective Courses**

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| **Semester III** |
| **S. N** | **Course Code** | **Course Title** | **Credit Hours** |
| 1 | MATH-414 | Vector and Tensor | 3(3+0) |
| 2 | MATH-415 | Fluid Mechanics-I | 3(3+0) |
| 3 | MATH-416 | Mathematical Statistic | 3(3+0) |
| 4 | MATH-417 | Measure and Integration | 3(3+0) |
| 5 | MATH-418 | Dynamics | 3(3+0) |
| 6 | MATH-419 | Optimization Theory-I | 3(3+0) |
| **Semester IV** |
| **S. N** | **Course Code** | **Course Title** | **Credit Hours** |
| 1 | MATH-424 | Numerical Analysis-II | 3(3+0) |
| 2 | MATH-425 | Introduction to Fixed Point Theory | 3(3+0) |
| 3 | MATH-426 | Fluid Mechanics-II | 3(3+0) |
| 4 | MATH-427 | Fuzzy Set Theory and Applications | 3(3+0) |
| 5 | MATH-428 | Mathematical Modeling | 3(3+0) |
| 6 | MATH-429 | Optimization Theory-II | 3(3+0) |