

Approved Course Structure

Name of the Program: Integrated B.Sc. [Hons.] Mathematics - M.Sc. Mathematics

Semester: 1st

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|-------------|-----------------------------------|---------|---------|
| 1 | MTL 1241 | Elements of Discrete Mathematics | 4-0-0 | 4 |
| 2 | MTL 1231 | Differential Calculus | 4-0-0 | 4 |
| 3 | PHL 1151 | Basic Optics | 4-0-0 | 4 |
| | PHP 1151 | Basic Optics Lab | 0-0-4 | 2 |
| 4 | BTL 1113 | Basics of Biology | 4-0-0 | 4 |
| | BTL 1101 | Conceptual Organic Chemistry | | |
| 5 | BTP 1113 | Basics of Biology Lab | | |
| | BTP 1101 | Concepts of Organic Chemistry Lab | 0-0-4 | 2 |
| 6. | LNL 1411 | Professional Communication | 2-0-2 | 3 |
| | | Total Credits | 18-0-10 | 23 |

Semester: 2nd

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|------------------------|----------------------------------------------------------------------------------------------------------------|-------|---------|
| 1 | MTL 1242 | Fundamentals of Computers | 2-0-0 | 2 |
| | MTP 1242 | Fundamentals of Computers Lab | 0-0-4 | 2 |
| 2 | MTL 1232 | Integral Calculus | 4-0-0 | 4 |
| 3 | MTL 1233 | Analytical Geometry of 3D and Trigonometry | 4-0-0 | 4 |
| 4 | BTL 1201/ BTL 1114 | Chemical bonding, Transition Metal & Coordination Chemistry / Molecules and Basic Processes of Life | 4-0-0 | 4 |
| 5 | BTP 1201 / BTP 1114 | Chemical bonding, Transition Metal & Coordination Chemistry Lab / Molecules and Basic Processes of Life Lab | 0-0-4 | 2 |
| 6 | PHL 1073 | Electromagnetics | 4-0-0 | 4 |
| | PHP 1073 | Electromagnetics Lab | 0-0-4 | 2 |
| 7. | LNP 1142 | Language Lab | 0-0-2 | 1 |
| | | Total | | 25 |

Semester: 3rd

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|------------------------------------|--------------------------------------------------------------------------------------------------|--------|---------|
| 1 | MTL 2231 | Fundamentals of Algebra | 4-1-0 | 5 |
| 2 | MTL 2232 | Real Analysis | 4-1-0 | 5 |
| 3 | MTL 2241 | Computer Programming | 3-0-0 | 3 |
| | MTP 2241 | Computer Programming Lab | 0-0-4 | 2 |
| 4 | BTL 2301/ BTL 2528 | Fundamental of Physical Chemistry Nutrition and Health | 4-0-0 | 4 |
| | PHL 2023 | Heat and Thermodynamics | | |
| | BTP 2301/ BTP 2528/ PHP 2023 | Fundamental of Physical Chemistry Lab Nutrition and Health Lab Heat and Thermodynamics Lab | | |
| 5 | | | 0-0-4 | 2 |
| 6. | PCE 2021/ LNE 2043 | Metaphysics of Human Existence Analyzing Sentence Structure | 4-2-0 | 6 |
| | | Total Credits | 19-4-8 | 27 |

Semester: 4th

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|-----------------------|----------------------------------------------------------------------|-------|---------|
| 1 | MTL 2242 | Combinatorial Mathematics | 4-1-0 | 5 |
| 2 | MTL 2251 | Probability and Statistics | 4-0-0 | 4 |
| | MTP 2251 | Probability and Statistics Lab | 0-0-2 | 1 |
| 3 | MTL 2243 | Vector Calculus | 4-1-0 | 5 |
| 4 | BTL 2401/ BTL 2529 | Analytical Methods in Chemistry / Applications of Biology | 4-0-0 | 4 |
| | BTP 2401/ BTP 2529 | Analytical Methods in Chemistry Lab / Applications of Biology Lab | 0-0-4 | 2 |

| | | | | |
|----|----------|----------------------------------|--------|----|
| 5. | BTL 2805 | Studies on Environmental Biology | 4-0-0 | 4 |
| | | Total | 20-2-6 | 25 |

Semester: 5th

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|-------------|----------------------------------|--------|---------|
| 1 | MTL-3231 | Multivariable Calculus | 4-1-0 | 5 |
| 2 | MTL-3241 | Coding Theory | 4-1-0 | 5 |
| 3 | MTL-3242 | Fuzzy Logic and Applications | 4-0-0 | 4 |
| | MTP-3242 | Fuzzy Logic and Applications Lab | 0-0-2 | 1 |
| 4 | MTL-3243 | Integral Transforms | 4-1-0 | 5 |
| 5 | MTE-3241 | Graph Theory | 5-0-0 | 5 |
| | | Total Credits | 21-3-2 | 25 |

Semester: 6th

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|-------------|------------------------------------|--------|---------|
| 1 | MTL 3244 | Ordinary Differential Equation | 4-0-2 | 5 |
| 2. | MTL 3245 | Number Theory and Cryptography | 4-1-0 | 5 |
| 3. | MTL 3232 | Linear Algebra | 4-1-0 | 5 |
| 4. | MTL 3261 | Linear Programming and Game Theory | 4-1-0 | 5 |
| 5. | MTE 3244 | Biomathematics | 5-0-0 | 5 |
| | | Total | 21-3-2 | 25 |
| | | Total Credits Overall | | 150 |

Apart from the above regular courses some students of this semester / batch have registered for following courses as backlog / Improvement courses (Fill this information below (if Applicable))

| S. No. | Course Code | Course Title | L-T-P | Credits | Backlog / Improvement |
|--------|-------------|--------------|-------|---------|-----------------------|
| 1 | | | | | |
| 2 | | | | | |

Semester: 7th

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|-------------|-----------------------------------------|--------|---------|
| 1 | MTL-6231 | Abstract Algebra | 4-0-0 | 4 |
| 2. | MTL-6232 | Advanced Real Analysis | 4-0-0 | 4 |
| 3. | MTL-6241 | Partial Differential Equations | 4-0-2 | 5 |
| 4. | MTL-6242 | Advanced Calculus and Special Functions | 4-0-0 | 4 |
| 5. | MTE-6241 | Algebraic Number Theory | 5-0-0 | 5 |
| | MTP-6243 | MATALAB | 0-0-4 | 2 |
| | | Total | 21-0-6 | 24 |

Apart from the above regular courses some students of this semester / batch have registered for following courses as backlog / Improvement courses (Fill this information below (if Applicable))

| S. No. | Course Code | Course Title | L-T-P | Credits | Backlog / Improvement |
|--------|-------------|--------------|-------|---------|-----------------------|
| 1 | | | | | |
| 2 | | | | | |

Semester-8th

| S. No. | Course Code | Course Title | L-T-P | Credits |
|--------|-------------|-------------------------------------|-------|---------|
| 1 | MTL-6233 | Complex Analysis | 4-1-0 | 5 |
| 2 | MTL-6234 | Advanced Linear Algebra | 4-1-0 | 5 |
| 3 | MTL-6244 | Differential and Integral Equations | 4-1-0 | 5 |

| | | | | |
|---|----------|-------------------|--------|----|
| 4 | MTL-6245 | Numerical Methods | 4-0-2 | 5 |
| 5 | MTE-6XXX | Open Elective | 3-0-0 | 3 |
| | MTP-6246 | LATEX | 0-0-4 | 2 |
| | | Total | 19-3-6 | 25 |

Signature

Head, School of _____