**BSC CHEMISTRY MAJOR PROGRAMME**

**Summary of Course Structure**

**Year 1: Semester I**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 1101  CHM 1102  CHM 1105 | BASIC INORGANIC CHEMISTRY  BASIC PHYSICAL CHEMISTRY  INTEGRATED PHYSICAL/ INORGANIC LABORATORY | 45  45  0 | 0  0  60 | 45  45  30 | 3  3  2 |
| **TOTAL CU** | | | | | **8** |
| COMMUNICATION SKILLS | | | | | **3** |

**AUDITED COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| MTH 1101 | CALCULUS I | 45 | 0 | 45 | 3 |

**Semester II**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 1205 | BASIC ORGANIC CHEMISTRY | 45 | 60 | 75 | 5 |
| **TOTAL CU** | | | | | **5** |

**Year 2: Semester I**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2111  CHM 2112  CHM 2113  CHM 2109 | ELEMENTS OF ANALYTICAL CHEMISTRY  BONDING AND PERIODICITY  POLYFUNCTIONAL AND CYCLIC ALIPHATICS  AROMATIC CHEMISTRY | 30  45  30  30 | 60  0  60  0 | 60  45  60  30 | 4  3  4  2 |
| **TOTAL CU** | | | | | **13** |
| DEVELOPMENT STUDIES | | | | | **3** |

**ELECTIVE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2114 | NATURAL PRODUCTS CHEMISTRY | 30 | 0 | 30 | 2 |

**Semester II**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2220  CHM 2221  CHM 2213  CHM 2222  CHM 2223 | TRANSITION METAL CHEMISTRY  STEREO- AND PHYSICAL ORGANIC CHEMISTRY  ELECTROCHEMISTRY  THERMODYNAMICS AND KINETICS  INTRODUCTORY SPECTROSCOPY | 30  30  30  30  30 | 60  0  0  60  0 | 60  30  30  60  30 | 4  2  2  4  2 |
| **TOTAL CU** | | | | | **14** |

**RECESS**

**CHM 2301: FIELD ATTACHMENT (5CU)**

**ELECTIVE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2224  CHM 2218 | INORGANIC ENERGETICS  BASIC ENVIRONMENTAL CHEMISTRY | 30  30 | 0  0 | 30  30 | 2  2 |

**CORE COURSES**

**Year 3: Semester I**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3128  CHM 3129  CHM 3122  CHM 3130  CHM 3124  ICH 3130 | ORGANOMETALLIC AND BIOINORGANIC CHEMISTRY  QUANTUM CHEMISTRY  COLLOID SCIENCE  SOLUTION AND STATISTICAL THERMODYNAMICS  SOLID-STATE AND CRYSTAL CHEMISTRY  INORGANIC CHEMICAL TECHNOLOGY | 30  30  30  45  30  30 | 0  0  0  0  0  30 | 30  30  30  45  30  45 | 2  2  2  3  2  3 |
| **TOTAL CU** | | | | | **14** |

**ELECTIVE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3131  CHM 3132  CHM 3133 | REACTION KINETICS  ADVANCED SPECTROSCOPY  DIVALENT SPECIES | 30  30  30 | 0  0  0 | 30  30  30 | 2  2  2 |

**Semester II**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3236  CHM 3228  CHM 3237  CHM 3231  ICH 3130 | ADVANCED ANALYTICAL CHEMISTRY  APPLICATION OF GROUP THEORY IN CHEMISTRY  PESTICIDES CHEMISTRY  ADVANCED PHYSICAL CHEMISTRY PRACTICALS  ORGANIC CHEMICAL TECHNOLOGY | 30  30  30  0  30 | 60  0  0  60  30 | 30  30  30  30  45 | 4  2  2  2  3 |
| **TOTAL CU** | | | | | **13** |

**ELECTIVE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3233  CHM 3234  CHM 3238 CHM 3232 | ADVANCED INORGANIC TOPICS  ADVANCED ORGANIC TOPICS  STRUCTURE DETERMINATION POLYMER CHEMISTRY | 30  30  30  30 | 0  0  0  0 | 30  30  30  30 | 2  2  2  2 |

**BSC CHEMISTRY MINOR PROGRAMME**

**Summary of Course Structure**

**Year 1: Semester I**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 1101  CHM 1102  CHM 1105 | BASIC INORGANIC CHEMISTRY  BASIC PHYSICAL CHEMISTRY  INTEGRATED PHYSICAL/ INORGANIC LABORATORY | 45  45  0 | 0  0  60 | 45  45  30 | 3  3  2 |
| **TOTAL CU** | | | | | **8** |

**AUDITED COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
|  | CALCULUS I | 45 | 0 | 45 | 3 |

**Semester II**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 1205 | BASIC ORGANIC CHEMISTRY | 45 | 60 | 75 | 5 |
| **TOTAL CU** | | | | | **5** |

**Year 2: Semester I**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2112 | BONDING AND PERIODICITY | 45 | 0 | 45 | 3 |
|  |  |  |  |  |  |
| **TOTAL CU** | | | | | **3** |

**ELECTIVE COURSES (Choose one)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2115 | NATURAL PRODUCTS CHEMISTRY | 30 | 0 | 30 | 2 |
| CHM 2114 | AROMATIC CHEMISTRY | 30 | 0 | 30 | 2 |

**Semester II**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2220  CHM 2222 | TRANSITION METAL CHEMISTRY  THERMODYNAMICS AND KINETICS | 30  30 | 60  60 | 30  60 | 4  4 |
| **TOTAL CU** | | | | | **8** |

**ELECTIVE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 2224  CHM 2218 | INORGANIC ENERGETICS  BASIC ENVIRONMENTAL CHEMISTRY | 30  30 | 0  0 | 30  30 | 2  2 |
| CHM 2223 | INTRODUCTORY SPECTROSCOPY | 30 | 0 | 30 | 2 |

**Year 3: Semester I**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3127 | ORGANOMETALLIC AND BIOINORGANIC CHEMISTRY | 30 | 0 | 30 | 2 |
| **TOTAL CU** | | | | | **2** |

**ELECTIVE COURSES (Choose one)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3131  CHM 3132 | REACTION KINETICS  ADVANCED SPECTROSCOPY | 30  30 | 0  0 | 30  30 | 2  2 |

**Semester II**

**CORE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3237 | PESTICIDES CHEMISTRY | 30 | 0 | 30 | 2 |
| **TOTAL CU** | | | | | **2** |

**ELECTIVE COURSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **L** | **P** | **CH** | **CU** |
| CHM 3232  CHM 3238 | POLYMER CHEMISTRY  STRUCTURE DETERMINATION | 30  30 | 0  0 | 30  30 | 2  2 |

**NOTE:** Chemistry Minors will have a minimum of **30** Credit Units, reflected in the core courses.

**MATHEMATICS REQUIREMENT**

1. Students who possess Advanced Level Principal Pass and those possessing Advanced Level Subsidiary Pass in mathematics, are exempted from doing CALCULUS

2. Those students who do not possess a minimum of Advanced Level

Subsidiary Pass in mathematics, must audit CHM 1104, and the auditing must be certified by the Lecturer.