## Plan of Studies in Mathematics/Astronomy

Requirements for earning Science B.S.c in Mathematics / Astronomy are to achieve 128 units accepted with a grade not less than (2) contain:

|  |  |  |
| --- | --- | --- |
| **Requirements** | **Units** | **Remarks** |
| University requirements | 26 | As shown in university requirements |
| First year requirements of natural science students | 15 | As shown in first year rquierments of Natrual Science students |
| College requirements | 9 | As shown in faculty requirements |
| Department requirements | 72 | 32 | Compulsory Astronomy Department requirements |
| 19 | Compulsory Math Department requirements |
| 4 | Compulsory Math & Static Department requirements |
| 17 | Elective Astronomy &Math Department |
| Elective requirements | 6 | Other department |
| **Total** | **128** |  |

\* Faculty Requierments:

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **Code & NO** | **Pre-requisites** |
| ASTR200 | Laboratory Safety | ASTR200 | - |
| MATH 202 | MATHMATICS 202 | MATH 202 | MATH 201 |
| Astr 390 | Summer training | Astr 390 | - |
| BAIO 281 | Baiology Lab. |  | - |
| PHYS 281 | Physics Lab. |  | - |

### Mathematics /Astronomy major requirements:

Student studies 72 units from astronomy and mathematic department as shown:

#### a- 28 units Compulsory from Astronomy Courses:

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **No. of Units** | **Pre-requisites** |
| **Th.** | **Pr.** | **Credit** |
| Astr 202 | General Astronomy (2) | 3 | 3 | 4 | Astr 201 |
| Astr 211 | Telescopes & Accessories | 2 | 3 | 3 | Astr 201, Phys 110 |
| Astr 304 | Computer Applications | 2 | 3 | 3 | Astr202, Phys202 |
| Astr 321 | Binary and Variable Stars | 2 | - | 2 | Astr 351 |
| Astr 331 | Spherical Astronomy (1) | 2 | 3 | 3 | Astr 202, Math 202 |
| Astr 341 | Celestial Mechanics (1) | 3 | - | 3 | Astr 331 |
| Astr 351 | Stellar Radiation and Characteristics | 2 | 3 | 3 | Astr 202, Phys 202 |
| Astr 371 | Physics of Solar System | 2 | - | 2 | Astr 202 |
| Astr 391 | Scientific terminology | 2 | - | 2 | - |
| Astr 432 | Spherical Astronomy (2) | 2 | 3 | 3 | Astr 331 |
|  | Total Units |  |  | 28 |  |

**b- 19 units Compulsory from Mathematics Courses as follows:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **No. of Units** | **Pre-requisites** |
| **Th.** | **Pr.** | **Credit** |
| Math 203 | Calculus (3) | 3 | 2 | 4 | Math 202 |
| Math 241 | Linear Algebra | 3 | - | 3 | Math 110 |
| Math 251 | Foundations of Mathematics | 3 | - | 3 | Math 110 |
| Math 261 | Analytic Geometry | 3 | - | 3 | Math 110 |
| Math 204 | Ordinary Differential Eqs.(1) | 3 | - | 3 | Math 203 |
| Math 311 | Real Analysis (1) | 3 | - | 3 | Math 202 |
|  |  |  |  |  |  |
|  | Total Units |  |  | 19 |  |

**c- 4 units Compulsory from Physics & Static Courses:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **No. of Units** | **Pre-requisites** |
| **Th.** | **Pr.** | **Credit** |
| Phys 202 | General Physics (2) | 3 | 3 | 4 | Phys 110, Math 110 |
|  | Total Units |  |  | 4 |  |

d-**8 Units from Astronomy Courses (Elective):**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **No. of Units** | **Pre-requisites** |
| **Th.** | **Pr.** | **Credit** |
| Astro 203 | History of Astronomy | 3 | - | 3 | - |
| Astr 352 | Stellar Atmospheres | 2 | - | 2 | Astr 351 |
| Astr453 | Stellar Interior | 2 | - | 2 | Astr 352 |
| Astr 472 | Solar Physics | 2 | 3 | 2 | Astr 371,352 |
| Astr 442 | Celestial Mechanics (2) | 2 | - | 2 | Astr 341 |
| Astr 481 | Galaxies | 2 | - | 2 | Stat 201,Astr 351 |

* 1. **9 Units from Math Courses (Elective):**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **No. of Units** | **Pre-requisites** |
| **Th.** | **Pr.** | **Credit** |
| Math 305 | Ordinary Differential Eqa. (1) | 3 | - | 3 | Math 204 |
| Math 312 | Real Analysis (2) | 3 | - | 3 | Math 311 |
| Math 332 | Applied Mathematics | 3 | - | 3 | Math 203 |
| Math 342 | Abstract Algebra(1) | 3 | - | 3 | Math 251 |
| Math 413 | Complex Analysis | 3 | - | 3 | Math 203,312 |
| Math 463 | Differential Geometry | 3 | - | 3 | Math 203,305 |

* 1. **Training Course (Astr 390) (2 units):**

A new course added recently to train students for 6 weeks in the summer season which is spent at the department under the supervision of an academic supervisor**:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course No.** | **Course Title** | **Units** | **Pre-requisites** |
| Astr 390 | Training (1) | 2 | - |

#### Elective courses from other departments (6 units):

Students choose elective courses under supervision of their academic supervisor that helps with their studying courier