|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sixth Level** | | | |  | |  | **Fifth Level** | |  | |  | |  | **Fourth Level** | | | | **Second year** | |
| **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** |
| **-** | **6** | **3** | **4.5** | **General Chemistry1** | **CHEM203** | **-** | **4.5** | **3** | **3** | **Applied Statistics** | **STAT211** | **-** | **6** | **0** | **6** | **Calculus I** | **MATH201** |
| **-** | **4.5** | **0** | **4.5** | **English for Scientific Communication** | **ENGL210** | **-** | **6** | **3** | **4.5** | **General Biology** | **BIOL204** | **-** | **6** | **3** | **4.5** | **Physics I** | **PHYS202** |
| **PHYS202** | **6** | **0** | **6** | **Physics II**  **(Mechanics and Waves)** | **PHYS206** | **MATH201** | **6** | **0** | **6** | **Calculus II** | **MATH205** | **\_** | **3** | **0** | **3** | **Islamic Creed** | **ISLM271** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **16.5** | | | | **Total Units** | | **16.5** | | | | **Total Units** | | **15** | | | | **Total Units** | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ninth Level** | | | |  | |  | **Eighth Level** | |  | |  | |  | **Seventh Level** | | | | **Third year** | |
| **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** |
| **PHYS301**  **PHYS302** | **3** | **6** | **0** | **Experimental Physics 1** | **PHYS303** | **MATH205** | **4.5** | **3** | **3** | **Mathematics for Physical Sciences I** | **MATH307** | **MATH205** | **6** | **0** | **6** | **Calculus III** | **MATH301** |
| **MATH301** | **4.5** | **3** | **3** | **Mathematics for Physical Sciences II** | **MATH308** | **PHYS301** | **4.5** | **0** | **4.5** | **Electronics** | **PHYS302** | **PHYS202** | **6** | **0** | **6** | **Electricity and Magnetism** | **PHYS301** |
| **-** | **4.5** | **3** | **3** | **Introduction to Programing** | **COMP209** | **-** | **4.5** | **0** | **4.5** | **Optics** | **PHYS304** | **-** | **4.5** | **0** | **4.5** | **Oral Skills for Scientific English** | **ENGL381** |
| **-** | **3** | **0** | **3** | **Social system in Islam** | **ISLM272** |  |  |  |  |  |  |  |  |  |  |  |  |
| **15** | | | | **Total Units** | | **13.5** | | | | **Total Units** | | **16.5** | | | | **Total Units** | |

**شرط التخصيص بالمسارات اجتياز 120 ساعة معتمدة**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Twelfth Level** | | | | | |  | **Eleventh Level** | | | |  | |  | **Tenth Level** | | | | **Fourth year** | |
| **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** |
| **MATH301 - PHYS206** | **4.5** | **0** | **4.5** | **Classical Mechanics** | **PHYS402** | **MATH308** | **6** | **0** | **6** | **Thermal and Statistical Physics** | **PHYS404** | **MATH301 - PHYS206** | **6** | **0** | **6** | **Modern Physics and Introduction to Quantum Mechanics** | **PHYS401** |
| **MATH307** | **6** | **3** | **4.5** | **Solid State Physics I (Structure of Materials and Diffraction)** | **PHYS406** | **PHYS401-MATH511** | **6** | **0** | **6** | **Computational Methods in Physics I** | **PHYS405** | **MATH308** | **4.5** | **3** | **3** | **Applied Mathematics** | **MATH511** |
| **-** | **3** | **0** | **3** | **Elective Course (Group A)** | **Xxxxxxxx** | **MATH511** | **4.5** | **3** | **3** | **Unix Lab Object oriented Programming** | **COMP499** | **MATH301** | **4.5** | **3** | **3** | **Introduction To Programing With MATLAB** | **COMP498** |
| **-** | **3** | **0** | **3** | **Elective Course (Group B)** | **Xxxxxxxx** |  |  |  |  |  |  |  |  |  |  |  |  |
| **16.5** | | | | **Total Units** | | **16.5** | | | | **Total Units** | | **15** | | | | **Total Units** | |

**Summer Training 3 Cr. Recement:(Pass 150 Cr. Cr.hr)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Fifteenth Level** | | | | | |  | **Fourteenth Level** | |  | |  | |  | **Thirteenth Level** | | | | **Fifth year** | |
| **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** | **Pre-request** | **Cr.**  **Hr.** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** |
| **COMP598** | **4.5** | **3** | **3** | **Basic Data Structure and Object-Oriented Design** | **COMP599** | **Pass level 12** | **3** | **0** | **3** | **Physics Project Seminar** | **PHYS509** | **PHYS401** | **4.5** | **0** | **4.5** | **Atomic and Molecular Spectrum** | **PHYS501** |
| **\_** | **4.5** | **0 - 6** | **4.5 – 1.5** | **Elective Course (Group B)** | **Xxxxxxx** | **PHYS501** | **3** | **6** | **0** | **Experimental Physics 2** | **PHYS508** | **PHYS405** | **4.5** | **0** | **4.5** | **Computational Methods in Physics II** | **PHYS506** |
| **\_** | **4.5** | **0** | **4.5** | **Elective Course (Group A)** | **Xxxxxxx** | **PHYS401** | **4.5** | **0** | **4.5** | **Advanced Quantum Mechanics** | **PHYS510** | **MATH511** | **4.5** | **3** | **3** | **Introduction to Computer Sciences Programming : Java** | **COMP598** |
| **-** | **3** | **0** | **3** | **Political system in Islam** | **ISLM274** | **-** | **3** | **0** | **3** | **Economic system in Islam** | **ISLM273** |  |  |  |  |  |  |
| 16.5 | | | | **Total Units** | | 13.5 | | | | **Total Units** | | 13.5 | | | | **Total Units** | |

**The student must pass (2) elective courses from list A with 7.5 credit hours, minimum of (2) elective courses from list B with 7.5 credit hours**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Elective Courses (List A) select … hours from List ….** | | | | | | |
| **Pre-request** | **Study Levels** | **Cr.**  **Hr** | **Lab** | **Lec** | **Course**  **Name** | **Course**  **No.** |
| PHYS301 |  | 4.5 | 0 | 4.5 | Electromagnetism | PHYS403 |
| PHYS401 |  | 4.5 | 0 | 4.5 | Nanotechnology and Nanosciences | PHYS502 |
| None |  | 3 | 0 | 3 | Astrophysics | PHYS503 |
| PHYS406 |  | 4.5 | 0 | 4.5 | Solid State Physics II (Introduction to Materials Science) | PHYS504 |
| PHYS403 |  | 4.5 | 0 | 4.5 | Light and Modern Optics | PHYS505 |
| None |  | 3 | 0 | 3 | Introduction to Medical Physics | PHYS550 |
| **Elective Courses (List B) select … hours from List ….** | | | | | | |
| PHYS501 |  | 4.5 | 6 | 1.5 | Physics Techniques and Instrumentations | PHYS513 |
| Pass 157 Credit hours |  | 3 | 0 | 3 | Selected Topics in Physics | PHYS552 |
| PHYS504 |  | 4.5 | 0 | 4.5 | Solar Cell Materials and devices | PHYS512 |
| None |  | 3 | 0 | 3 | Radiation and Health Physics | PHYS450 |
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