|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 Chemistry I** | **CHEM203** | **\_** | **6** | **3** | **4.5** | **General Biology** | **BIOL204** | **\_** | **6** | **0** | **6** | **Calculus I** | **MATH201** |
| **\_** | **6** | **0** | **6** | **Foundation of mathematics** | **MATH206** | **\_** | **4.5** | **0** | **4.5** | **English for Scientific Communication** | **ENGL210** | **\_** | **6** | **3** | **4.5** | **Physics I** | **PHYS202** |
| **\_** | **4.5** | **3** | **3** | **Introduction to Programming** | **COMP209** | **MATH201** | **6** | **0** | **6** | **Calculus II** | **MATH205** |  |  |  |  |  |  |
| **16.5** | **Total Units** | **16.5**  | **Total Units** | **12** | **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.** |
| **MATH205** | **4.5** | **3** | **3** | **Numerical Analysis** | **MATH305** | **\_** | **4.5** | **3** | **3** | **Applied Statistics** | **STAT211** | **MATH205** | **6** | **0** | **6** | **Calculus III** | **MATH301** |
| **MATH205MATH303** | **4.5** | **3** | **3** | **Probability 1** | **STAT306** | **\_** | **3** | **0** | **3** | **Islamic Creed** | **ISLM271** | **MATH205** | **6** | **0** | **6** | **Ordinary Differential Equation** | **MATH302** |
| **MATH303-MATH302** | **4.5** | **3** | **3** | **Computational Mathematics** | **MATH307** | **MATH206** | **6** | **0** | **6** | **Principles of Algebra** | **MATH304** | **MATH206** | **6** | **0** | **6** | **Linear Algebra** | **MATH303** |
| **13.5**  | **Total Units** | **13.5**  | **Total Units** | **18** | **Total Units** |

**شرط التخصيص بالمسارات اجتياز120 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.** |
| **MATH401** | **4.5** | **3** | **3** | **Introduction to Mathematical Modelling** | **MATH409** | **MATH205** | **6** | **0** | **6** | **Real analysis I** | **MATH403** | **MATH301-****MATH302** | **6** | **0** | **6** | **Partial differential equations** | **MATH401** |
| **-** | **4.5\_6** | **3\_0****or 0** | **3-4.5 or 6** | **Elective from list A-B** | **xxx** | **MATH303-MATH301** | **6** | **0** | **6** | **Differential Forms and Vector Analysis** | **MATH405** | **MATH302** | **6** | **0** | **6** | **Mathematical Methods** | **MATH402** |
| **-** | **4.5** | **0** | **4.5** | **Oral Skills for scientific English** | **ENGL381** |  | **4.5** | **0-3** | **4.5 -3** | **Elective from list A-B** | **xxx** |  | **3\_6** | **0** | **3\_6** | **Elective from list A-B** | **xxx** |
| **-** | **3** | **0** | **3** | **Social system in Islam** | **ISLM272** |  |  |  |  |  |  |  |  |  |  |  |  |
|  **16.5-18**  | **Total Units** |  **16.5** | **Total Units** |  **15-18** | **Total Units** |

**Summer Training course 3 Cr. Requierment: pass 150Cr.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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.** |
| **complete 157.5 or more credit hours** | **3** | **0** | **3** | **Mathematics Research Seminar** | **MATH506** | **MATH301** | **6** | **0** | **6** | **Complex analysis** | **MATH501** | **MATH403** | **6** | **0** | **6** | **Real Analysis II** | **MATH502** |
| **MATH401MATH307** | **4.5** | **3** | **3** | **Numerical Methods for Partial Differential Equations** | **MATH509** | **MATH405** | **4.5** | **3** | **3** | **Operations Research** | **MATH510** | **MATH405** | **4.5** | **3** | **3** | **Applied Matrix Theory** | **MATH504** |
| **MATH402** | **4.5** | **3** | **3** | **Applied Mathematics** | **MATH511** |  | **4.5** | **0\_3** | **4.5\_3** | **Elective from list A-B** | **xxx** |  | **4.5** | **0\_3** | **4.5\_3** | **Elective from list A-B** | **xxx** |
| **-** | **3** | **0** | **3** | **Political system in Islam** | **ISLM274** | **-** | **3** | **0** | **3** | **Economic system in Islam** | **ISLM273** |  |  |  |  |  |  |
|  **15**  | **Total Units** |  **18** | **Total Units** |  **15**  | **Total Units** |

**The student must pass minimum of (5) elective courses from list A or B with 21 – 25.5 credit hours**

|  |
| --- |
| **Elective Courses (List A) select … hours from List ….** |
| **Pre-request** | **Study Levels** | **Cr. Hr.** | **Lab** | **Lec** | **Course Name** | **Course No.** |
| **-** |  | 4.5 | 0 | 4.5 | **Number Theory**  | **MATH406** |
| **STAT306** |  | 4.5 | 3 | 3 | **Statical inference I** | **STAT404** |
| **STAT404** |  | 4.5 | 3 | 3 | **Regression Analysis**  | **STAT410** |
| **MATH205** |  | 4.5 | 0 | 4.5 | **Financial Mathematics** | **MATH450** |
| **-** |  | 4.5 | 0 | 4.5 | **Euclidean and Non-Euclidean Geometry** | **MATH 451** |
| **MATH502** |  | 4.5 | 0 | 4.5 |  **Measure Theory & Integration** | **MATH507** |
| **MATH405** |  | 4.5 | 0 | 4.5 | **Differential Geometry** | **MATH508** |
| **MATH405** |  | 4.5 | 0 | 4.5 |  **Graph Theory & Applications**  | **MATH550**  |
| **MATH303 + MATH406** |  | 4.5 | 0 | 4.5 |  **Coding Theory**  | **MATH551** |
| **Elective Courses (List B) select … hours from List ….** |
| **PHYS202** |  | 6 | 0 | 6 | **Physics II (Mechanics & Waves)** | **PHYS206** |
| **MATH301 + PHYS206** |  | 6 | 0 | 6 | **Modern Physics and Introduction to Quantum** | **PHYS401** |
| **PHYS202** |  | 6 | 0 | 6 | **Magnetism & Electricity**  | **PHYS301** |
| **PHYS301** |  | 4.5 | 0 | 4.5 | **Electromagnetism** | **PHYS403** |
| **-** |  | 3 | 0 | 3 | **Introduction to Medical Physics**  | **PHYS550**  |
| **-** |  | 3 | 0 | 3 | **Radiation and Health Physics**  | **PHYS450** |
| **CHEM203** |  | 4.5 | 3 | 3 | **Organic Chemistry**  | **CHEM212**  |
| **CHEM212**  |  | 4.5 | 3 | 3 | **Bio-Chemistry**  | **BIOCH308** |
| **BIOL204** |  | 4.5 | 3 | 3 | **Cell Biology**  | **BIOL206**  |
| **BIOL206**  |  | 4.5 | 3 | 3 | **Principle of Genetic**  | **GENTC304** |
|  |