**Al-Nahrain University**

**College of Engineering**

**Department of Prosthetics and Orthotics Engineering**

**Study Plan for the B.Sc. Degree Course**

**(2017-2018)**

**First Year**

* **First Semester ...**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | CODE | SUBJECT | Hrs per Week | | | Units |
| Th | App | Tut |
| 1 | UREQ110 | Human Rights | 1 | - | - | 1 |
| 2 | CREQ111 | Information Technology | 1 | 2 | - | 2 |
| 3 | UREQ112 | Computer Programming I | 2 | 2 | - | 3 |
| 4 | MATH110 | Mathematics I | 2 | - | 1 | 2 |
| 5 | PHSY110 | Physics | 2 | 2 | - | 3 |
| 6 | CREQ110 | Engineering Drawing I | 1 | 3 | - | 2 |
| 7 | CREQ111 | Workshop Technology | - | 3 | - | 1 |
| 8 | POER110 | Engineering Mechanics I | 3 | - | 1 | 3 |
| 9 | POER111 | Anatomy I | 2 | 2 | - | 3 |
| **Total** | | | 14 | 14 | 2 | 20 |
| 30 | | |

* **Second Semester …**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | CODE | SUBJECT | Hrs per Week | | | Units |
| Th | App | Tut |
| 1 | UREQ120 | Arabic Language I | 1 | - | - | 1 |
| 2 | UREQ121 | English Language I | 2 | - | - | 2 |
| 3 | UREQ122 | Computer Programming II | 2 | 2 | - | 3 |
| 4 | MATH120 | Mathematics II | 3 | - | - | 3 |
| 5 | CREQ120 | Engineering Drawing II | 1 | 3 | - | 2 |
| 6 | POER 120 | Engineering Mechanics II | 3 | - | 1 | 3 |
| 7 | POER121 | Anatomy II | 2 | 2 | - | 3 |
| 8 | POER 122 | Materials Science | 2 | - | - | 2 |
| 9 | POER 123 | Electrical Circuits | 2 | 2 | - | 3 |
| Total | | | 18 | 9 | 1 | 22 |
| 28 | | |

**PO (1-5)**

**Al-Nahrain University**

**College of Engineering**

**Department of Prosthetics and Orthotics Engineering**

**Study Plan for the B.Sc. Degree Course**

**(2017 -2018)**

**Second Year**

* **First Semester ...**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | CODE | SUBJECT | Hrs per week | | | Units |
| Th | App | Tut |
| **1** | UREQ210 | Principles of Management | 1 | - | - | 1 |
| **2** | UREQ211 | Arabic Language II | 1 | - | - | 1 |
| 3 | MATH210 | Mathematics III | 3 | - | 1 | 3 |
| **4** | CREQ210 | Information Technology | 1 | 2 | - | 2 |
| 5 | POER210 | Prosthetics I | 2 | 5 | - | 4 |
| **6** | POER211 | Orthotics I | 2 | - | - | 2 |
| **7** | POER212 | Biomaterials | 3 | - | - | 3 |
| **8** | POER213 | Strength of Materials I | 2 | - | 1 | 3 |
| **9** | POER214 | Biomechanics I | 2 | - | - | 2 |
| **TOTAL** | | | 17 | 7 | 2 | 21 |
| 26 | | |

* **Second Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | CODE | SUBJECT | Hrs per week | | | Units |
| Th | App | Tut |
| 1 | UREQ220 | Democracy | 1 | - | - | 1 |
| 2 | MATH220 | Mathematics IV | 3 | - | 1 | 3 |
| 3 | POER220 | Prosthetics II | 2 | - | - | 2 |
| 4 | POER221 | Orthotics II | 2 | 4 | - | 4 |
| **\*5** | POER222 | Strength of Materials II | **2** | **2** | **-** | **3** |
| **\*6** | POER223 | Electronics | **3** | **2** | **-** | **4** |
| **7** | POER224 | Biomechanics II | 2 | - | - | 2 |
| 8 | POER225 | Physiology | 2 | - | - | 2 |
| **TOTAL** | | | 17 | 8 | 1 | 21 |
| 26 | | |

**PO (2-5)**

**Al-Nahrain University**

**College of Engineering**

**Department of Prosthetics and Orthotics Engineering**

**Study Plan for the B.Sc. Degree Course**

**(2017-2018)**

**Third Year**

* **First Semester …**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **CODE** | **Subject** | **Hrs per Week** | | | **Units** |
| **Th** | **App** | **Tut** |
| 1 | POER310 | Prosthetics III | 2 | 4 | - | 4 |
| 2 | POER311 | Orthotics III | 2 | 2 | - | 3 |
| 3 | POER312 | Biomechanical Behavior of Materials | 2 | - | - | 2 |
| 4 | POER313 | Numerical Analysis | 2 | - | 1 | 2 |
| 5 | POER314 | Mobility and Rehabilitation I | 2 | 2 | - | 3 |
| 6 | POER315 | Biomechanics III | 2 | 2 | - | 3 |
| 7 | POER316 | Pathology I | 2 | - | - | 2 |
| 8 | CREQ310 | Engineering Statistics | **2** | **-** | **-** | **2** |
| **Total** | | | 16 | 10 | 1 | 21 |
| 27 | | |

* **Second Semeste**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **CODE** | **Subjects** | **Hrs. per Week** | | | **Units** |
| **Th** | **App** | **Tut** |
| 1 | POER320 | Prosthetics IV | 2 | 4 | - | 4 |
| **2** | POER321 | Orthotics IV | 2 | 2 | - | 3 |
| **3** | POER322 | Computer Applications | 2 | 2 | - | 3 |
| **4** | POER323 | Mobility and Rehabilitation II | 2 | - | - | 2 |
| 5 | POER324 | Nervous System | 2 | 2 | - | 3 |
| **6** | POER325 | Pathology II | 2 | - | - | 2 |
| **7** | POER326 | Robotics | 2 | 2 | - | 3 |
| **8** | POER327 | Manufacturing Processes | 2 | - | - | 2 |
| **Total** | | | 16 | 12 | - | 22 |
| 28 | | |

**PO (3-5)**

**Al-Nahrain University**

**College of Engineering**

**Department of Prosthetics and Orthotics Engineering**

**Study Plan for the B.Sc. Degree Course**

**(2017-2018)**

**Fourth Year**

* **First Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Code | Subject | Hrs per Week | | | Units |
| Th | App | Tut |
| 1 | POER410 | Control and Measurements I | 2 | 2 |  | 3 |
| 2 | POER411 | Prosthetic Clinical Practice I | 1 | 3 | - | 2 |
| 3 | POER412 | Orthotic Clinical Practice I | 1 | 3 | - | 2 |
| 4 | POER413 | Mechanical Design | 3 | - | 1 | 3 |
| 5 | POER414 | Elective I | 2 | - | 1 | 2 |
| 6 | POER415 | Elective II | 2 | - | 1 | 2 |
| 7 | CREQ410 | Project | - | 4 | - | 2 |
| **Total** | | | 11 | 12 | 3 | 16 |
| 26 | | |

* **Second Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Code | Subject | Hrs per Week | | | Units |
| Th | App | Tut |
| **1** | POER420 | Control and Measurements II | 2 | - | 1 | 2 |
| 2 | POER421 | Prosthetic Clinical Practice II | 1 | 3 | - | 2 |
| 3 | POER422 | Orthotic Clinical Practice II | 1 | 3 | - | 2 |
| 4 | POER423 | Artificial Intelligence | 2 | 2 | 1 | 3 |
| 5 | POER424 | Elective III | 2 | - | 1 | 2 |
| **6** | POER425 | Elective IV | 2 | - | 1 | 2 |
| **7** | CREQ420 | Project | - | 4 | - | 2 |
| **Total** | | | 10 | 12 | 4 | 15 |
| 26 | | |

**PO (4-5)**

**Electives:**

1. Histology.
2. Vibrations.
3. Fluid Mechanics.
4. Thermodynamics.
5. Corrosions.
6. Advanced Robotics.
7. Laser.
8. Digital Integrated Circuits
9. Logic Design.
10. Composite Materials.
11. Nanotechnology.
12. Hydraulic System.
13. Polymers.
14. CAD/CAM System.
15. Tribology.
16. Research Methods in Health