



## Study Plan for Bachelor's Degree in Communication Engineering\Internet of Things

The Bachelor's Degree in Communication Engineering\Internet of Things awarded at Princess Sumaya University for Technology after the successful completion of 160 Credit Hours distributed as follows:-

### University Requirements (27 CHs)

#### 1. Compulsory Requirements (18 CHs)

| Course Number | Course Title                                     | Credit Hours | Prerequisite           | Concurrent |
|---------------|--------------------------------------------------|--------------|------------------------|------------|
| 11100         | Computer Skills (Remedial)                       | 0            |                        |            |
| 31021         | Arabic Language Communication Skills (Remedial)  | 0            |                        |            |
| 31022         | English Language Communication Skills (Remedial) | 0            |                        |            |
| 31112         | Arabic Language Communication Skills             | 3            | 31021                  |            |
| 31122         | English Language Communication Skills            | 3            | 31022                  |            |
| 31151         | National Education                               | 3            |                        |            |
| 31160         | Leadership and Societal Responsibility           | 0            |                        |            |
| 31251         | Military Science                                 | 3            |                        |            |
| 31254         | Entrepreneurship and Innovation                  | 3            | Finish 60 Credit Hours |            |
| 31374         | Life Skills                                      | 3            | Finish 60 Credit Hours |            |

#### 2. Elective Requirements (9 CHs)

| Course Number | Course Title                                  | Credit Hours | Prerequisite | Concurrent |
|---------------|-----------------------------------------------|--------------|--------------|------------|
| 20251         | History of Science                            | 3            |              |            |
| 31100         | Sports and Health                             | 3            |              |            |
| 31130         | Foreign languages                             | 3            |              |            |
| 31152         | Arabic Islamic Civilization                   | 3            |              |            |
| 31211         | Arabic Literature                             | 3            | 31112        |            |
| 31252         | Governance and Development                    | 3            |              |            |
| 31260         | Human Rights                                  | 3            |              |            |
| 31261         | Introduction to Politics and Economic Science | 3            |              |            |
| 31264         | Introduction To Psychology                    | 3            |              |            |
| 31272         | Development and Environment                   | 3            |              |            |
| 31311         | Scientific Research Methods                   | 3            |              |            |
| 31351         | Contemporary Issues in the Arab World         | 3            |              |            |
| 31352         | Jerusalem : History and Facts                 | 3            |              |            |
| 31362         | Philosophy and Critical Thinking              | 3            |              |            |

### School Requirements (30 CHs)

#### 1. Compulsory Requirements (30 CHs)

| Course Number | Course Title               | Credit Hours | Prerequisite | Concurrent |
|---------------|----------------------------|--------------|--------------|------------|
| 11103         | Structured Programming     | 3            | 11100        |            |
| 11151         | Structured Programming Lab | 1            |              | 11103      |
| 20132         | Calculus (1)               | 3            |              |            |
| 20133         | Calculus (2)               | 3            | 20132        |            |



## Study Plan for Bachelor's Degree in Communication Engineering\Internet of Things

| Course Number | Course Title                               | Credit Hours | Prerequisite           | Concurrent |
|---------------|--------------------------------------------|--------------|------------------------|------------|
| 20140         | Basic Concepts in Chemistry                | 1            |                        |            |
| 20141         | Physics (1)                                | 3            |                        |            |
| 20142         | Physics (2)                                | 3            | 20141                  |            |
| 20150         | Physics Lab                                | 1            |                        | 20142      |
| 20200         | Technical Writing and Communication Skills | 3            | 31112,31122            |            |
| 20231         | Calculus (3)                               | 3            | 20133                  |            |
| 21218         | Engineering Drawing Lab                    | 1            |                        |            |
| 21219         | Engineering Workshop                       | 1            |                        |            |
| 23411         | Engineering Economics                      | 3            | Finish 99 Credit Hours |            |
| 24411         | Engineering Ethics                         | 1            | Finish 99 Credit Hours |            |

### Program Requirements (103 CHs)

#### 1. Compulsory Requirements (94 CHs)

| Course Number | Course Title                                      | Credit Hours | Prerequisite      | Concurrent |
|---------------|---------------------------------------------------|--------------|-------------------|------------|
| 11325         | Database Fundamentals                             | 3            | 11103             |            |
| 20134         | Discrete Mathematics (1)                          | 3            |                   |            |
| 20232         | Engineering Mathematics(1)                        | 3            | 20133             |            |
| 20234         | Linear Algebra                                    | 3            |                   |            |
| 20331         | Engineering Mathematics(2)                        | 3            | 20231,20232       |            |
| 20335         | Applied Probability and Statistics                | 3            | 20231             |            |
| 21221         | Electric Circuits (1)                             | 3            | 20142             |            |
| 21222         | Electric Circuits (2)                             | 3            | 21221             |            |
| 21229         | Electric Circuits Lab                             | 1            |                   | 21222      |
| 21231         | Electronics (1)                                   | 3            | 21221             |            |
| 21331         | Electronics (2)                                   | 3            | 21231             |            |
| 21338         | Electronics Lab                                   | 1            | 21229             | 21331      |
| 22241         | Digital Logic Design                              | 3            |                   |            |
| 22242         | Object Oriented Laboratory                        | 1            | 11103             |            |
| 22348         | Digital Logic Lab                                 | 1            | 22241             |            |
| 22442         | Embedded Systems                                  | 3            | 21338,22241       |            |
| 22448         | Embedded Systems Lab                              | 1            | 22442             |            |
| 22570         | Artificial Intelligence and Machine Learning      | 3            | 11325,20234,20335 |            |
| 23321         | Electromagnetics (1)                              | 3            | 20142,20331       |            |
| 23351         | Signals and Systems                               | 3            | 20232,21222       | 23356      |
| 23355         | Communication Principles                          | 3            | 23351             |            |
| 23356         | Programming Applications in Signals & Systems Lab | 1            |                   | 23351      |
| 23454         | Communication Networks                            | 3            | 23355             |            |
| 23455         | Communication Networks Lab                        | 1            |                   | 23454      |
| 23457         | Cellular Communications                           | 3            | 23355             |            |
| 23459         | Communications Lab                                | 1            | 21338             | 23355      |
| 23571         | Digital Signal Processing                         | 3            | 23351             |            |
| 24471         | Automatic Control                                 | 3            | 23351             |            |
| 27251         | Introduction to IoT                               | 1            | 20142             |            |



## Study Plan for Bachelor's Degree in Communication Engineering\Internet of Things

| Course Number | Course Title                                        | Credit Hours | Prerequisite            | Concurrent |
|---------------|-----------------------------------------------------|--------------|-------------------------|------------|
| 27351         | Internet of things programming and applications     | 3            | 27251                   |            |
| 27352         | Internet of things programming and applications Lab | 1            |                         | 27351      |
| 27450         | Antennas and Waves Propagation                      | 3            | 23321,23355             |            |
| 27453         | IoT Sensors and Applications                        | 3            | 22442,23355,27251       |            |
| 27454         | IoT Sensors and Applications Lab                    | 1            |                         | 27453      |
| 27490         | Practical Training                                  | 3            | Finish 99 Credit Hours  |            |
| 27541         | IoT Security and Privacy                            | 3            | 20134,20234,27251       |            |
| 27542         | Internet of Things Security Lab                     | 1            |                         | 27541      |
| 27551         | Wireless IoT                                        | 3            | 23355                   |            |
| 27552         | Wireless IoT Lab                                    | 1            | 23457                   | 27551      |
| 27591         | Senior Design Project (1)                           | 1            | Finish 120 Credit Hours |            |
| 27592         | Senior Design Project (2)                           | 2            | 27591                   |            |

### 2. Elective Requirements (9 CHs)

| Course Number | Course Title                                       | Credit Hours | Prerequisite | Concurrent |
|---------------|----------------------------------------------------|--------------|--------------|------------|
| 21581         | Special Topics in Electronics Engineering          | 3            |              |            |
| 22582         | Special Topics in Computer Engineering (1)         | 3            |              |            |
| 23482         | Satellite Communications                           | 3            | 23355        |            |
| 23483         | Advanced Communications Systems                    | 3            | 23355        |            |
| 23551         | Optical Communications                             | 3            | 23355        |            |
| 23582         | Special Topics in Communications Engineering (1)   | 3            |              |            |
| 23584         | Coding and Cryptography                            | 3            | 23355        |            |
| 23585         | Wireless Network Architecture                      | 3            | 23454,23457  |            |
| 23586         | Sensor Networks                                    | 3            | 23454        |            |
| 23587         | Digital Image Processing                           | 3            | 23571        |            |
| 24583         | Special Topics in Power And Energy Engineering     | 3            |              |            |
| 25593         | Special Topics in Network Security Engineering (1) | 3            |              |            |
| 27580         | Special Topics in IOT                              | 3            |              |            |
| 27583         | Blockchain in the Internet of Things               | 3            | 11325,27251  |            |
| 27584         | Internet of Robotics                               | 3            | 22442        |            |
| 27585         | Cloud Computing in IoT                             | 3            | 11325,27251  |            |
| 27586         | Control Technology of IoT                          | 3            | 22442,24471  |            |
| 27587         | Network Protocols for IoT                          | 3            | 23454,23457  |            |
| 27588         | Autonomous Vehicles                                | 3            | 11325,27251  |            |
| 27589         | Optimization                                       | 3            | 20234        |            |
| 27594         | Smart Grid Communications                          | 3            | 23355,23454  |            |