

## Degree Plan

|                   |                                          |                  |
|-------------------|------------------------------------------|------------------|
| Degree : Bachelor | Faculty : College of Engineering in Al-I | Plan hrs : 167   |
| Semester : 461    | Dept : Electrical Engineering            | Plan Type : Main |
| Edition : 8       | Major : EE74 Electrical Engineering      | Gender : Male    |

Group : إجبارية ( 139 )

| First     |                             |     |           |      |                            |
|-----------|-----------------------------|-----|-----------|------|----------------------------|
| code      | Course Name                 | Hr. | requisite | Year | Activities Desc            |
| SLM 1201  | Principles of Islam         | 2   | -         | -    | lecture (2)                |
| GE 1201   | Introduction to Engineering | 2   | -         | -    | lecture (2)                |
| CIT 1301  | Computer Skills             | 3   | -         | -    | lecture (2), practical (2) |
| ENGL 1302 | English Language 1          | 3   | -         | -    | lecture (2), practical (2) |
| MATH 1307 | Calculus 1                  | 3   | -         | -    | lecture (2), exercise (1)  |
| PHYS 1401 | Physics 1                   | 4   | -         | -    | lecture (3), practical (2) |
| Total     |                             |     |           |      | 17                         |

| Second    |                                           |   |               |   |                            |
|-----------|-------------------------------------------|---|---------------|---|----------------------------|
| CHEM 1301 | Chemistry 1                               | 3 | -             | - | lecture (2), practical (2) |
| ENGL 1303 | English Language 2                        | 3 | ENGL 1302 - S | - | lecture (2), practical (2) |
| ENGL 1305 | English Language for Engineering Purposes | 3 | ENGL 1302 - S | - | lecture (2), practical (2) |
| MATH 1308 | Calculus 2                                | 3 | MATH 1307 - S | - | exercise (1), lecture (2)  |
| MATH 1309 | Vectors and Matrices                      | 3 | MATH 1307 - S | - | lecture (2), exercise (1)  |
| PHYS 1402 | Physics 2                                 | 4 | PHYS 1401 - S | - | lecture (3), practical (2) |
| Total     |                                           |   |               |   | 19                         |

| Third     |                                              |   |               |   |                            |
|-----------|----------------------------------------------|---|---------------|---|----------------------------|
| GE 1202   | Fundamentals of Engineering Drawing          | 2 | -             | - | practical (4)              |
| CSC 1301  | Principles of Programming and Algorithms     | 3 | CIT 1301 - S  | - | lecture (2), practical (2) |
| MATH 1310 | Calculus 3                                   | 3 | MATH 1308 - S | - | lecture (2), exercise (1)  |
| EE 2101   | Electric Circuits Laboratory                 | 1 | EE 2401 - M   | - | practical (2)              |
| ME 2209   | Fundamentals of Mechanical Power Engineering | 2 | PHYS 1401 - S | - | lecture (2)                |
| EE 2301   | Logic Design                                 | 3 | -             | - | lecture (2), exercise (1)  |
| EE 2401   | Fundamentals of Electric Circuits            | 4 | PHYS 1402 - S | - | lecture (3), exercise (1)  |
| Total     |                                              |   |               |   | 18                         |



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## Forth

| code      | Course Name                    | Hr. | requisite                      | Year | Activities Desc            |
|-----------|--------------------------------|-----|--------------------------------|------|----------------------------|
| SLM 1202  | Social Values in Islam         | 2   | -                              | -    | lecture (2)                |
| MATH 1300 | Differential Equations         | 3   | MATH 1310 - S                  | -    | lecture (2), exercise (1)  |
| ENGL 1306 | Technical Writing              | 3   | ENGL 1303 - S                  | -    | lecture (2), practical (2) |
| EE 2102   | Logic Design Lab               | 1   | EE 2301 - S                    | -    | practical (2)              |
| EE 2203   | Electronics 1                  | 2   | EE 2401 - S                    | -    | lecture (2)                |
| EE 2302   | Electric Circuit Analysis      | 3   | EE 2401 - S                    | -    | lecture (2), exercise (1)  |
| EE 2402   | Engineering Electromagnetics 1 | 4   | MATH 1310 - S<br>PHYS 1402 - S | -    | lecture (3), exercise (1)  |
| Total     |                                |     |                                |      | 18                         |

## Fifth

|           |                                                   |   |               |   |                            |
|-----------|---------------------------------------------------|---|---------------|---|----------------------------|
| MATH 1305 | Numerical Methods                                 | 3 | MATH 1309 - S | - | lecture (2), exercise (1)  |
| EE 3104   | Electronics Lab                                   | 1 | EE 3303 - M   | - | practical (2)              |
| EE 3301   | Introduction to Microprocessors                   | 3 | EE 2301 - S   | - | lecture (2), practical (2) |
| EE 3302   | Engineering Electromagnetics 2                    | 3 | EE 2402 - S   | - | lecture (3)                |
| EE 3303   | Electronics 2                                     | 3 | EE 2203 - S   | - | lecture (2), exercise (1)  |
| EE 3305   | Computer Programming for Engineering Applications | 3 | CSC 1301 - S  | - | lecture (2), practical (2) |
| Total     |                                                   |   |               |   | 16                         |

## Sixth

|         |                                        |   |               |   |                           |
|---------|----------------------------------------|---|---------------|---|---------------------------|
| GE 1302 | Engineering Probability and Statistics | 3 | MATH 1308 - S | - | lecture (2), exercise (1) |
| EE 3308 | Measurements and Instrumentation       | 3 | EE 2302 - S   | - | lecture (2), exercise (1) |
| EE 3309 | Power Electronics                      | 3 | EE 3303 - S   | - | lecture (3)               |
| EE 3406 | Signals and Systems Analysis           | 4 | EE 2302 - S   | - | lecture (3), exercise (1) |
| EE 3407 | Fundamentals of Power Systems          | 4 | EE 2302 - S   | - | lecture (3), exercise (1) |
| Total   |                                        |   |               |   | 17                        |



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#### Seventh

| code    | Course Name                               | Hr. | requisite                  | Year | Activities Desc           |
|---------|-------------------------------------------|-----|----------------------------|------|---------------------------|
| GE 1303 | Engineering Economy                       | 3   | -                          | -    | lecture (2), exercise (1) |
| EE 4105 | Electromechanical Energy Conversion Lab 1 | 1   | EE 4304 - M                | -    | practical (2)             |
| EE 4106 | Measurements and Control Lab              | 1   | EE 4302 - M<br>EE 3308 - S | -    | practical (2)             |
| EE 4302 | Automatic Control                         | 3   | EE 3406 - S                | -    | lecture (3)               |
| EE 4303 | Renewable Energy Engineering              | 3   | EE 3309 - S                | -    | lecture (3)               |
| EE 4304 | Electromechanical Energy Conversion 1     | 3   | EE 2302 - S<br>EE 2402 - S | -    | lecture (2), exercise (1) |
| EE 4401 | Communications Principles                 | 4   | EE 3406 - S                | -    | lecture (3), exercise (1) |
| Total   |                                           |     |                            |      | 18                        |

#### Eighth

|         |                                  |   |   |   |             |
|---------|----------------------------------|---|---|---|-------------|
| GE 1305 | Professional Practice and Ethics | 3 | - | - | lecture (3) |
| EE 4291 | Senior Design Project 1          | 2 | - | - | project (4) |
| Total   |                                  |   |   |   | 5           |

#### Ninth

|         |                                |   |             |   |                           |
|---------|--------------------------------|---|-------------|---|---------------------------|
| GE 1304 | Engineering Project Management | 3 | -           | - | lecture (2), exercise (1) |
| EE 5291 | Senior Design Project 2        | 2 | EE 4291 - S | - | project (4)               |
| Total   |                                |   |             |   | 5                         |

#### Tenth

|         |                      |   |   |   |               |
|---------|----------------------|---|---|---|---------------|
| EE 5699 | Cooperative Training | 6 | - | - | training (12) |
| Total   |                      |   |   |   | 6             |



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## Group : إختيارية ( 28 )

|          |                                           |     |                            |      |                           |
|----------|-------------------------------------------|-----|----------------------------|------|---------------------------|
| ARB 1201 | Language Skills                           | 2   | -                          | -    | lecture (2)               |
| code     | Course Name                               | Hr. | requisite                  | Year | Activities Desc           |
| BA 2201  | Entrepreneurship                          | 2   | -                          | -    | lecture (2)               |
| SLM 2201 | Jurisprudence of Worship                  | 2   | -                          | -    | lecture (2)               |
| ARB 2201 | Arabic Writing                            | 2   | -                          | -    | lecture (2)               |
| CIS 2201 | Digital Transformation                    | 2   | -                          | -    | lecture (2)               |
| SLM 2202 | Contemporary Issues                       | 2   | -                          | -    | lecture (2)               |
| Total    |                                           |     |                            |      | 16                        |
| EE 4113  | Electromechanical Energy Conversion Lab 2 | 1   | EE 4312 - M                | -    | practical (2)             |
| EE 4114  | Power Electronics Laboratory              | 1   | EE 3309 - S                | -    | practical (2)             |
| EE 4122  | Communications Laboratory                 | 1   | EE 4315 - M                | -    | practical (2)             |
| EE 4307  | Power Systems Analysis                    | 3   | EE 3407 - S                | -    | lecture (3)               |
| EE 4308  | High Voltage Engineering                  | 3   | EE 3407 - S                | -    | lecture (3)               |
| EE 4309  | Power Distribution Systems                | 3   | EE 3407 - S                | -    | lecture (3)               |
| EE 4310  | Power System Planning                     | 3   | EE 3407 - S                | -    | lecture (3)               |
| EE 4311  | Electrical Machine Dynamics and Stability | 3   | EE 4304 - S                | -    | lecture (3)               |
| EE 4312  | Electromechanical Energy Conversion 2     | 3   | EE 4304 - S                | -    | lecture (3)               |
| EE 4315  | Digital Communications                    | 3   | EE 4401 - S<br>GE 1302 - S | -    | lecture (3)               |
| EE 4316  | Wave Propagation and Antennas             | 3   | EE 3302 - S                | -    | lecture (3)               |
| EE 4317  | Advanced Electronic Circuits              | 3   | EE 3303 - S                | -    | lecture (3)               |
| EE 4318  | Microwave Engineering                     | 3   | EE 3302 - S                | -    | lecture (3)               |
| EE 4319  | Digital Signal Processing                 | 3   | EE 3406 - S                | -    | lecture (3)               |
| EE 4320  | Computer Networks                         | 3   | EE 3305 - S                | -    | lecture (2), exercise (1) |
| EE 4321  | Digital Control Systems                   | 3   | EE 4302 - S                | -    | lecture (3)               |
| EE 5312  | Wireless Communications                   | 3   | EE 4315 - M<br>EE 4316 - M | -    | lecture (3)               |
| Total    |                                           |     |                            |      | 45                        |



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| EE 5106 | Electric Power Lab                                      | 1   | EE 4307 - S                | -    | practical (2)   |
|---------|---------------------------------------------------------|-----|----------------------------|------|-----------------|
| code    | Course Name                                             | Hr. | requisite                  | Year | Activities Desc |
| EE 5301 | Power Systems Operation and Control                     | 3   | EE 4307 - S                | -    | lecture (3)     |
| EE 5302 | Power Systems Protection                                | 3   | EE 4307 - S                | -    | lecture (3)     |
| EE 5303 | Electric Drives                                         | 3   | EE 4304 - S<br>EE 3309 - S | -    | lecture (3)     |
| EE 5304 | Power Systems Grounding                                 | 3   | EE 3407 - S                | -    | lecture (3)     |
| EE 5307 | Selected Topics in Electrical Power Engineering         | 3   | -                          | -    | lecture (3)     |
| EE 5308 | Information Theory and Coding                           | 3   | EE 4315 - S                | -    | lecture (3)     |
| EE 5309 | Satellite Communications                                | 3   | EE 4316 - S                | -    | lecture (3)     |
| EE 5310 | Advanced communications                                 | 3   | EE 4315 - S                | -    | lecture (3)     |
| EE 5311 | Optical Communications                                  | 3   | EE 4316 - S                | -    | lecture (3)     |
| EE 5313 | Electricity Market and Energy Transactions              | 3   | EE 4307 - S                | -    | lecture (3)     |
| EE 5314 | Selected Topics in Communications and Signal Processing | 3   | -                          | -    | lecture (3)     |
| EE 5315 | Selected Topics in Engineering Electromagnetics         | 3   | -                          | -    | lecture (3)     |
| EE 5316 | Selected Topics for Professional Certificates           | 3   | -                          | -    | lecture (3)     |
| Total   |                                                         |     |                            |      | 41              |