

University of Thi-Qar جامعة ذي قار



Bachelor of Sciences in Electrical and Electronics Engineering
بكالوريوس علوم في الهندسة الكهربائية والالكترونية



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1. Overview

This catalogue is about the courses (modules) given by the program of Electrical and Electronics Engineering to gain the Bachelor of Sciences degree in Electrical and Electronics Engineering. The program delivers (44) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج الهندسة الكهربائية للحصول على درجة بكالوريوس علوم في الهندسة الكهربائية والالكترونية. يقدم البرنامج (44) مادة دراسية، على سبيل المثال، مع (٦٠٠٠) إجمالي ساعات حمل الطالب و ٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

2. Undergraduate Courses 2023-2024

Module 1

| Code | Course/Module Title | ECTS | Semester |
|---|------------------------|---------------|-------------|
| UTQAR 11 | Arabic Language Skills | 2 | 1 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 1 | 1 | 33 | 17 |
| Description | | | |
| It is a support (or related) learning activity module without prerequisites | | | |

Module 2

| Code | Course/Module Title | ECTS | Semester |
|--------------|----------------------------|---------------|-------------|
| UTQHR21 | Human Rights and Democracy | 2 | 1 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 0 | 2 | 33 | 17 |

| Description |
|--|
| It is a basic learning activity module without prerequisites |

Module 3

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| ER 105 | Calculus | 7 | 1 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 4 | 123 | 52 |
| Description | | | |
| It is a basic learning activity module without prerequisites | | | |

Module 4

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| EEE 1110 | Electrical Circuits I | 8 | 1 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 92 |
| Description | | | |
| It is a core learning activity module without prerequisites | | | |

Module 5

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| ER 106 | Engineering Drawing | 7 | 1 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 2 | 5 | 108 | 67 |
| Description | | | |
| It is a basic learning activity module without prerequisites | | | |

Module 6

| Code | Course/Module Title | ECTS | Semester |
|--------------|-----------------------|---------------|-------------|
| ER 101 | Physics | 4 | 1 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 2 | 0 | 33 | 67 |

| Description |
|---|
| It is a support (or related) learning activity module without prerequisites |

Module 7

| Code | Course/Module Title | ECTS | Semester |
|---|----------------------------|---------------|-------------|
| UTQEN11 | Basics of English Language | 2 | 2 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 1 | 1 | 33 | 17 |
| Description | | | |
| It is a support (or related) learning activity module without prerequisites | | | |

Module 8

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| EEE 1220 | Physical Electronics | 5 | 2 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 47 |
| Description | | | |
| It is a core learning activity module without prerequisites | | | |

Module 9

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| ER 205 | Applied Mathematics | 7 | 2 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 4 | 123 | 52 |
| Description | | | |
| It is a basic learning activity module with pre-requisite (s) of ER 105 | | | |

Module 10

| Code | Course/Module Title | ECTS | Semester |
|--------------|------------------------|---------------|-------------|
| EEE 1211 | Electrical Circuits II | 8 | 2 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 92 |

| Description | | | |
|--|--|--|--|
| It is a core learning activity module with pre-requisite (s) of EEE 1110 | | | |

Module 11

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| UTQCO12 | Computer Science | 3 | 2 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 2 | 2 | 63 | 12 |
| Description | | | |
| It is a basic learning activity module without prerequisites | | | |

Module 12

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| ER 103 | Chemistry | 4 | 2 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 2 | 2 | 63 | 37 |
| Description | | | |
| It is a support (or related) learning activity module without prerequisites | | | |

Module 13

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| EEE 2121 | Electronics I | 7 | 3 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 67 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 1220 and EEE 1211 | | | |

Module 14

| Code | Course/Module Title | ECTS | Semester |
|--------------|-----------------------|---------------|-------------|
| EEE 2110 | DC Machines | 7 | 3 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 67 |

| Description |
|--|
| It is a core learning activity module with pre-requisite (s) of EEE 1211 |

Module 15

| Code | Course/Module Title | ECTS | Semester |
|--|-------------------------|---------------|-------------|
| EEE 2112 | Electrical Circuits III | 6 | 3 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 1211 | | | |

Module 16

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| ER 207 | Computer Programming | 4 | 3 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 2 | 2 | 63 | 37 |
| Description | | | |
| It is a basic learning activity module without prerequisites | | | |

Module 17

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| EEE 2120 | Digital Logic | 6 | 3 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module without prerequisites | | | |

Module 18

| Code | Course/Module Title | ECTS | Semester |
|--------------|-------------------------|---------------|-------------|
| UR 202 | English Language Skills | 2 | 4 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 1 | 1 | 33 | 17 |

| Description |
|--|
| It is a support (or related) learning activity module with pre-requisite (s) of UR 102 |

Module 19

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| EEE 2210 | Signals and Systems | 6 | 4 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module without prerequisites | | | |

Module 20

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| EEE 2222 | Electronics II | 7 | 4 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 67 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 2121 | | | |

Module 21

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| EEE 2211 | AC Machines | 7 | 4 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 67 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 2110 | | | |

Module 22

| Code | Course/Module Title | ECTS | Semester |
|--------------|-----------------------|---------------|-------------|
| EEE 2220 | Electrostatic Fields | 6 | 4 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |

| Description |
|---|
| It is a core learning activity module without prerequisites |

Module 23

| Code | Course/Module Title | ECTS | Semester |
|--|----------------------------|---------------|-------------|
| UR 201 | Human Rights and Democracy | 2 | 4 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 1 | 1 | 33 | 17 |
| Description | | | |
| It is a support (or related) learning activity module with pre-requisite (s) of ER 105 | | | |

Module 24

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| EEE 3110 | Probabilistic Methods | 6 | 5 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 2112 | | | |

Module 25

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| EEE 3120 | Power Engineering | 6 | 5 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 2120 | | | |

Module 26

| Code | Course/Module Title | ECTS | Semester |
|--------------|------------------------|---------------|-------------|
| EEE 3130 | Digital Systems Design | 6 | 5 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 2 | 93 | 57 |

| Description |
|---|
| It is a core learning activity module without prerequisites |

Module 27

| Code | Course/Module Title | ECTS | Semester |
|---|------------------------------|---------------|-------------|
| EEE 3140 | Advanced Electrical Machines | 6 | 5 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is an elective learning activity module with pre-requisite (s) of EEE 2211 | | | |

Module 28

| Code | Course/Module Title | ECTS | Semester |
|--|------------------------|---------------|-------------|
| EEE 3121 | Electromagnetic Fields | 6 | 5 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 2220 | | | |

Module 29

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| EEE 3210 | Microwaves | 6 | 6 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is an elective learning activity module with pre-requisite (s) of EEE 3121 | | | |

Module 30

| Code | Course/Module Title | ECTS | Semester |
|--------------|-----------------------|---------------|-------------|
| EEE 3220 | Communication Systems | 6 | 6 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 42 |

| Description |
|---|
| It is a core learning activity module with pre-requisite (s) of EEE 2210 and EEE 3110 |

Module 31

| Code | Course/Module Title | ECTS | Semester |
|---|------------------------|---------------|-------------|
| EEE 3230 | Power Systems Analysis | 6 | 6 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is an elective learning activity module with pre-requisite (s) of EEE 3120 | | | |

Module 32

| Code | Course/Module Title | ECTS | Semester |
|--|----------------------------|---------------|-------------|
| EEE 3240 | Digital Signals Processing | 6 | 6 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 2210 | | | |

Module 33

| Code | Course/Module Title | ECTS | Semester |
|--|------------------------|---------------|-------------|
| EEE 3250 | Linear Control Systems | 6 | 6 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 2210 | | | |

Module 34

| Code | Course/Module Title | ECTS | Semester |
|--------------|-------------------------------|---------------|-------------|
| EEE 4121 | Digital Communication Systems | 6 | 7 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |

| Description |
|---|
| It is an elective learning activity module with pre-requisite (s) of EEE 3220 |

Module 35

| Code | Course/Module Title | ECTS | Semester |
|--|--------------------------|---------------|-------------|
| EEE 4151 | Feedback Control Systems | 7 | 6 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 3250 | | | |

Module 36

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| EEE 4110 | Microprocessors | 6 | 7 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is an elective learning activity module with pre-requisite (s) of EEE 2120 | | | |

Module 37

| Code | Course/Module Title | ECTS | Semester |
|---|------------------------------|---------------|-------------|
| EEE 4120 | Antennas & Waves Propagation | 6 | 7 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is an elective learning activity module with pre-requisite (s) of EEE 3121 | | | |

Module 38

| Code | Course/Module Title | ECTS | Semester |
|--------------|-----------------------|---------------|-------------|
| EEE 4130 | Research Topics | 6 | 7 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 1 | 2 | 48 | 102 |

| Description |
|---|
| It is a core learning activity module without prerequisites |

Module 39

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| EEE 4210 | Renewable Energy | 6 | 8 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 1 | 78 | 72 |
| Description | | | |
| It is an elective learning activity module without prerequisites | | | |

Module 40

| Code | Course/Module Title | ECTS | Semester |
|---|-----------------------|---------------|-------------|
| ER 401 | Ethics | 2 | 8 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 1 | 1 | 33 | 17 |
| Description | | | |
| It is a support (or related) learning activity module without prerequisites | | | |

Module 41

| Code | Course/Module Title | ECTS | Semester |
|---|------------------------------|---------------|-------------|
| EEE 4220 | Microcontroller Applications | 7 | 8 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 67 |
| Description | | | |
| It is an elective learning activity module with pre-requisite (s) of ER 207 | | | |

Module 42

| Code | Course/Module Title | ECTS | Semester |
|--------------|-----------------------|---------------|-------------|
| EEE 4230 | Power Electronics | 7 | 8 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 4 | 3 | 108 | 67 |

| Description |
|---|
| It is an elective learning activity module with pre-requisite (s) of EEE 2222 |

Module 43

| Code | Course/Module Title | ECTS | Semester |
|--|-----------------------|---------------|-------------|
| EEE 4231 | Engineering Project | 6 | 8 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 1 | 2 | 48 | 102 |
| Description | | | |
| It is a core learning activity module with pre-requisite (s) of EEE 4130 | | | |

Module 44

| Code | Course/Module Title | ECTS | Semester |
|---|-------------------------|---------------|-------------|
| EEE 4240 | Projects Administration | 2 | 8 |
| Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
| 2 | 0 | 33 | 17 |
| Description | | | |
| It is a core learning activity module without prerequisites | | | |

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