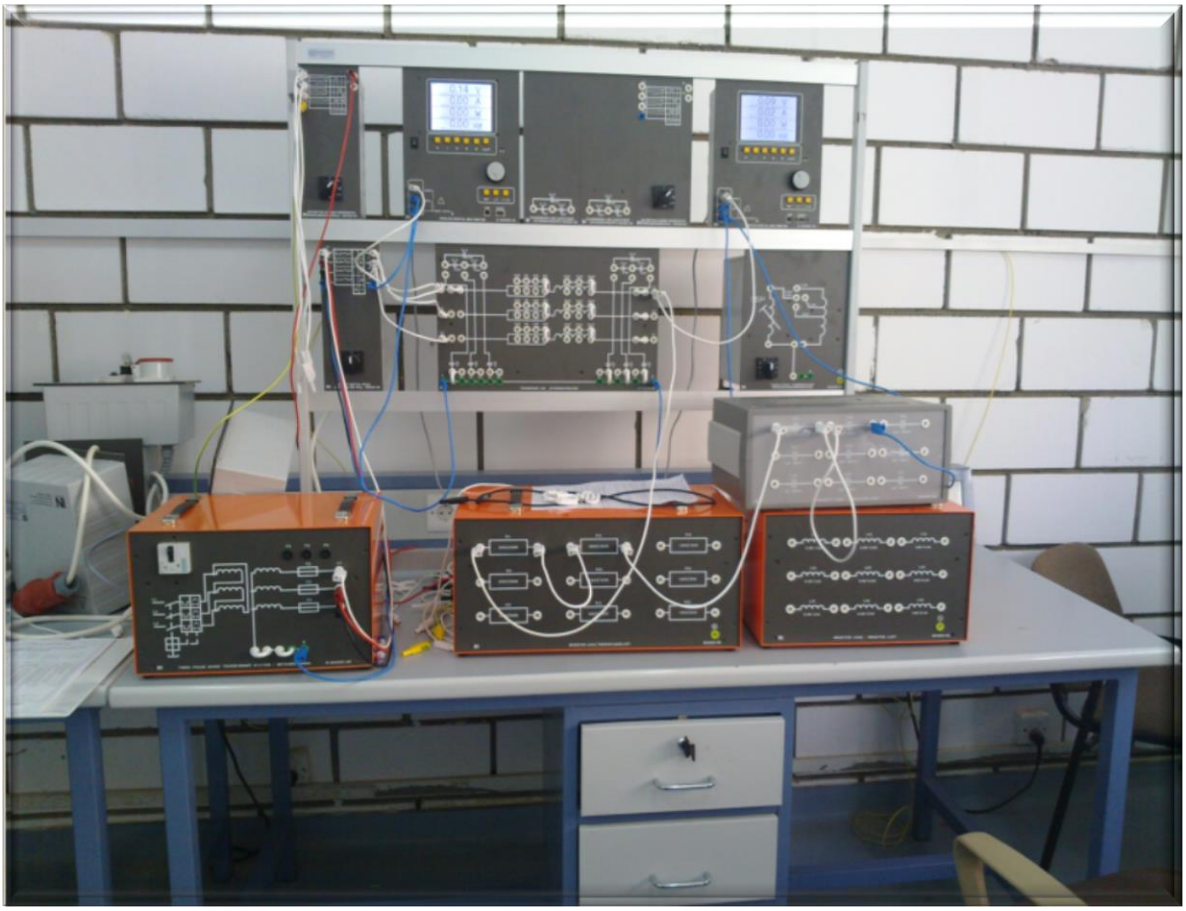
Handbook of Electrical Engineering Department



1445 H

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Message from the Head of Electrical Engineering

The Electrical Engineering Department was founded in 1426 H to establish the undergraduate program in the engineering college. The Electrical Engineering department seeks to produce nurture leaders for the engineering profession with skills of engineering and technology. The students should develop an attitude of life-long learning, as suggested by The National Center for Academic Accreditation and Evaluation. Hence, a multi-phased learning culture is being developed at our campus with experienced department members who use their own strategies.

The Electrical Engineering department offers a world-class, challenging, and well-balanced learning environment to produce excellent engineering graduates for tomorrow's technology. With a team that is recognized for its teaching excellence and innovative research, the department is established to graduate the next generation of innovative engineers who will be equipped with skills and knowledge to make a positive impact on industry and society worldwide.

Dr. ZUHAIR AL-QARNI
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Vision of Al-Baha University

A distinguished university in education and research that contributes to building a knowledgeable society.

Mission of Al-Baha University

Provide distinguished education and scholarly research that contribute to building a knowledgeable society through motivating and engaging academic environment and the most efficient use of the resources available.

Goals of Al-Baha University

(1) Improving the quality of teaching and learning.

(2) Achieving distinction in the performance of faculty members and other employees.

(3) Developing and supporting scholarly research.

(4) Developing programs of graduate studies.

(5) Developing infrastructure and high-tech environment.

(6) Creating effective partnerships with the community.

(7) Strengthening the University institutional system.

(8) Developing self-resources.

Values of Al-Baha University

• Fairness and honesty

• Transparency

• Spirit of teamwork

• Regard and mutual respect

• Achievement appreciation

• Loyalty

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Vision of Faculty of Engineering

Leadership in engineering education, research, and community service.

Mission of Faculty of Engineering

Preparation of distinct engineering staff able to cope with the needs of the labor market and submitting innovative research that contributes to the solution of engineering and environmental problems of the community and providing a good environment for learning.

Goals of Faculty of Engineering

(1) Improving the quality of teaching and learning.

(2) Development and support of scientific research.

(3) Activation of postgraduate programs.

(4) Building effective partnerships with the community.

(5) Enhancing the institutional system at the faculty.

Values of Faculty of Engineering

- Fairness and honesty
- Transparency
- Spirit of teamwork
- Regard and mutual respect
- Achievement appreciation
- Loyalty

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Vision of Electrical Engineering Department

Distinguished department in all modern electrical engineering issues, applied scientific research, and social service.

Mission of Electrical Engineering Department

To provide conducive environment for educational programs in electrical engineering discipline that meet the national vision, community service, and the rapidly growing technology research.

Goals of Electrical Engineering Department

(1) Advancing the quality and efficiency of teaching and learning of the electrical engineering programs to meet the national needs.

(2) Development of scientific research and teaching skills of the faculty members.

(3) Serving the community by linking the scientific research with community problems.

(4) Enhancing the quality of electrical engineering programs to receive national and international academic accreditation.

Values of Electrical Engineering Department

- Fairness and honesty
- Transparency
- Spirit of teamwork
- Regard and mutual respect
- Achievement appreciation
- Loyalty

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Vision of Bachelor of Electrical Engineering Program

Excellence in electrical engineering field, scientific research, and community service.

Mission of Bachelor of Electrical Engineering Program

To provide quality electrical engineering education that enables graduates to compete in the labor market, conduct research, and contribute to the community service.

Goals of Bachelor of Electrical Engineering Program

(1) Demonstrating quality knowledge and skills in Electrical Engineering discipline.

(2) Conducting scientific research in Electrical Engineering discipline.

(3) Engaging in community service and demonstrate commitment to social responsibilities.

Values of Bachelor of Electrical Engineering Program

- Fairness and honesty
- Transparency
- Spirit of teamwork
- Regard and mutual respect
- Achievement appreciation
- Loyalty

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Students Learning Outcomes

• The ability to apply knowledge of mathematics, science, and engineering

• The ability to design and conduct experiments, as well as to analyze and interpret data

• The ability to design a system, component, or process to meet desired needs with realistic constraints such as economic, environmental, social, political, ethical, health, and safety, manufacturability, and sustainability

• The ability to function on multidisciplinary teams

• The ability to identify, formulate, and solve engineering problems

• Understanding of professional and ethical responsibility

• The ability to communicate effectively

• The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

• Recognition of the need and the ability to engage in lifelong learning

• Knowledge of contemporary issues

• An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

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Introduction

Albaha University was established on 1426 H and so as the College of Engineering. The Electrical Engineering department was established, however, on 1429 H. There were 52 students joining the department on its first year. Those students were accepeted in 1428 H and were following the curriculum from Umm Alqura University which requires 164 credits on 10 semesters, where the first two semesters are called thd preparatory year. 46 out of those 52 were able to graduate with a bachelor's degree in electrical engineering, which makes the graduates rate out of first enrollements 88.5%. Table 1 shows the number of students who joied the department in the following years.

In 1431 H, the department has updated the curriculum where the students were required to study 162 credits to earn a bachelor's degree in electrical engineering. This consists of 10 semestetrs where the first two are the preparatory year. This plan was later named (plan 1430 H) and it was valid for three years. In 1433 H, the currciculun has been changed and it was named (plan 1433 H).

In 1431 H, Albaha University had established Tajseer Program and so as the electrical engineering department. The program was running until 1440 H.

In 1438 H, the curriculum was updated, and the preparatory year was cancelled. The students were able to join the department's immedietly after being accepted by the university. The students were required to study 162 credits hours and the curriculum was named (plan 1438 H).

In the academic year 1444 H, the study plan was modified to three semesters per year as a result of the amendment of university requirements and the requirements of NCAAA to modify the educational plans under the name (Plan 1444-1445 H). The students were required to study 200 credits hours. This is the currently approved plan.

The following Table 1 shows the number of students enrolled in the department since 1429 H

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#	Year	Umm Alqura plan		1430 plan		Tajseer		1433 plan		1438 plan		1445 plan	Master
		S1	S2	S1	S2	S1	S2	S1	S2	S1	S2		
1	1428	52	-	-	-	-	-	-	-	-	-	-	-
2	1429	48	-	-	-	-	-	-	-	-	-	-	-
3	1430	-	-	49	-	-	-	-	-	-	-	-	-
4	1431	-	-	56	-	27	30	-	-	-	-	-	-
5	1432	-	-	54	-	-	-	-	-	-	-	-	-
6	1433	-	-	-	-	20	-	38	-	-	-	-	-
7	1434	-	-	-	-	-	-	52	-	-	-	-	-
8	1435	-	-	-	-	-	-	39	-	-	-	-	-
9	1436	-	-	-	-	5	-	42	-	-	-	-	-
10	1437	-	-	-	-	5	-	38	-	-	-	-	-
11	1438	-	-	-	-	-	-	-	-	44	-	-	-
12	1439	-	-	-	-	-	-	-	-	50	-	-	-
13	1441	-	-	-	-	-	-	-	-	67	-	-	-
14	1442	-	-	-	-	-	-	-	-	53	-	-	19
15	1443	-	-	-	-	-	-	-	-	54	-	-	18
16	1444	-	-	-	-	-	-	-	-	62	-	-	7
17	1445											50	5
total enrollments in the department since 1429 H												984 students	

There are 21 faculty members in the Electrical Engineering department consisting of: 2 Professors, 3 Associate Professors, and 16 Assistant Professors. The ratio of faculty members to students is 11 students/faculty member. Saudi faculty members represent 52.4 % of the total faculty member.

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1. Students

The following Table 2 shows statitcs about the students of the electrical engineering department. It shows that there are currently 984 students. The number of drop out students are 115 students which represents 11.6 % of the total students enrolled. There are 571 graduates with bachleor's degree in Electrical Engineering.

#	year	Enrolled students	Graduates	Drop out	Remaining as of 1445
1	1428	52	46	5	1
2	1429	48	47	1	-
3	1430	49	43	4	2
4	1431	113	93	19	1
5	1432	54	47	6	1
6	1433	58	45	13	-
7	1434	52	48	4	-
8	1435	39	29	8	2
9	1436	47	27	16	4
10	1437	43	26	4	13
11	1438	44	22	5	17
12	1439	50	34	6	10
13	1441	67	37	7	23
14	1442	53	-	7	46
15	1443	54	-	5	49
16	1444	62	-	-	62
17	1445	50	-	5	45
18	Master	49	27	-	22
Total students		984	571	115	298

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2. Academic Advising

2.1 Guidelines:

- Conducting an introductory meeting that includes the head of the department and members, in addition to the department's students, to enhance the culture of academic advising among students and to provide the service to those who need it, even if they do not request it.
- Conducting an introductory session for academic advisors and new members with the role of the academic advisor and the tasks assigned to him.
- Assign students to academic advisors and provide them with the names of the students who guide them through lists announced on the department's bulletin board and website.
- Emphasis on the academic advisor of the importance of making a file for each student that includes the following: an updated form containing all the student's data to communicate with him and follow up his academic record, and A copy of the academic record + a copy of the student's semester schedule + a copy of any decision taken against the student.
- The academic advisor must abide by the rules and regulations followed in the department when regestering any course for the students.
- If there are indicative cases that are difficult for the academic advisor to solve, he should write a report and discusse it with the head of the department.
- The academic advisor should hold a periodic meeting in the middle of the semester with his students to get acquainted with the proper functioning of the academic process, and to solve any problem.
- Paying attention to students with low grades by knowing the causes, and addressing them, and raising their level of achievement.
- Working on benefiting from the discovered talents of students and helping them to provide their best and highest quality through directing the activities of student affairs.
- Determining the class needs in terms of the number of sections and their capacity.
- Proposing a study schedule for each student before the start of registrations and educating the student about the need to adhere to the proposed.

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2.2 Course Registeration:

Student registration process for their schedules go through two stages:

1- Initial registration: The student can add any course to his schedule according to his plan through the banner system, where all the materials available for registration appear on his account that do not conflict with his schedule according to the following conditions:

- The student must have successfully passed the course requirement.
- The section that the student wishes to add is available, and the number of students registered in it has not reached the maximum.
- The total number of credit hours registered in the student's schedule after the addition process is less than or equal to the maximum number of credit hours the student is allowed to register.

2- Modifications: where the need for a week to fix the registration appears so that the student can reconfigure his initial schedule in line with his study plan and the number of hours he is allowed to register.

The following are some of the cases that the department handles, after coordination with the academic advisor and filling out the relevant form:

- Changing the section in which the student is registered to another section to resolve conflicts.
- Raising the section capacity: to resolve the conflicts, the advisor submits a request to increase the section capacity for the courses offered by the department after obtaining the approval of the course instructor.
- Request to remove the major requirements when registering from other departments: If the course to be added is from another department, the advisor must obtain approval from the department submitted to the course to perform the course registration.
- Removing the major requirements for out of department students to register for the department courses.
- Handling exceptional cases such as: request to open a course or section for graduating students, disregard the course requirement in a very special case approved by the department head and the advisor, and exceeding the maximun credits allowed by more than three hours and conditional on the department's approval in the event of the student's graduation

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2.3 Assign students to academic advisors:

Students are distributed at the beginning of the academic year according to their class, where an academic advisor or more faculty members in the department are assigned to each class.

2.4 Improvement plan for the Academic Advising and Professional Development Committee:

First: Improvement plan

It is a set of activities and events that are taken by the academic advisor in a specific period during the semester, and within a specific spatial framework in the department building, where these activities are presented at gradual time intervals, starting with direct and weekly and monthly follow-up and ending with the completion of the semester.

It is the responsibility of the academic advisor to activate these activities in coordination with the Academic Guidance and Professional Development Committee and all concerned parties in order to integrate students into their academic environment.

Second: plan's golas

- Helping students to find direct solutions to the academic problems they face.
- Working to spread and strengthen the culture of academic advising among students and to provide services to those who need it, even if they do not request it.
- Giving students the opportunity to benefit directly and indirectly from the experiences of faculty members outside the classroom.
- Paying attention to the advancement of students with low performance by knowing the causes, and addressing them, and raising their level of achievement.
- Providing the necessary advice, guidance, and awareness, and working to modify the undisciplined behavior of students.
- Helping students to integrate into the academic and educational environment and to conform and adapt to it.
- Motivating outstanding students inside and outside the classroom.
- Working on benefiting from the discovered talents of the students and helping them to provide their best and the highest quality through directing the activities of student affairs.

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Third: plan's announcement

After presenting the plan to the department board for approval, and making any observations about it, the department publishes the plan on the department's website to inform everyone about it.

Forth: The course equivalency mechanism

The course equivalency mechanism for the Electrical Engineering Department, which includes the department's approval of course equivalency, is as follows

1- The number of course hours required to be equalized is required to be equal to or more than the number of course hours in the student's plan in the Electrical Engineering Department at Al-Baha University.

2- The student's external equivalency is not counted within his cumulative average, and is calculated for him within the hours passed only

3- Content equivalence (course description) with a rate of no less than 70%.

4- Obtaining a score of at least 65% for the equivalent course.

6- The total course equivalency percentage should not exceed 40%, and the student must complete 10% of his study plan at Al-Baha University.

7- The copy of the course description to be equalized must be an approved copy from the university from which the student is transferred.

Fifth: duties of academic advisor

- Prepare a file for each student that includes the following: an updated form containing all the student's data to communicate with him and follow up his academic record, and A copy of the academic record + a copy of the student's semester schedule + a copy of any decision taken against the student.
- Assisting students in registeration for courses.
- General guidance to the students with any concerns.
- Performance evaluation: The academic advisor must help students to bear their academic load according to their semester credit hours and cumulative grades.
- Follow up and support students with low performance by reviewing the results of the midterm and final exams to identify the students, and conducting a personal interview for all these students to identify their problems from their point of view and to write a report on that.

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- Supporting outstanding students: The academic advisor, in cooperation with the department and the college administration, designs and implements a program to support outstanding students.
- Encourage students to attend seminars and workshops held by the college "or other colleges whenever possible" to achieve personal and social interaction and integrate them into the academic environment of university life.
- Count the failing students in each course at the end of each semester and develop a plan to overcome the delay in the plan for each student by suggesting additional courses on the main schedule for each semester, and open new sections specifically for those students.
- Suggesting a study schedule for each student before the start of registration and educating the student about the need to adhere to this.
- Hold a regular meeting in the middle of the semester with the students to overcome any difficulties thery are facing.

Sixth: activities and events for the plan

No.	Activities
1	Knowing the faculty's study plan and graduation requirements for students and making sure that the student's schedule matches the faculty's study plan. Knowing the dates of courses registration, addition, and deletion announced by the Deanship of Admission and Registration. Keeping useful resource materials such as Academic Counseling Guide, academic calendar, class schedules on hand.
2	Providing accessible counseling and advising services to all students by scheduling and maintaining regular announced office hours throughout the academic year.
3	Providing counseling service to all students by the Faculty of Engineering Counselor to answer all student enquiries regarding the completion of their personal and academic achievement.
4	Providing all students with outreaching seminar about advising and counseling services.
5	Acquainting all students, especially the newcomer students, with regulations and rules policies of Albaha university.
6	Preparing an updated folder for all students including all documents and information (such as: teaching plan, student's courses and grades, previous transcripts, etc).
7	Assisting the students in course selection and registration.
8	Organizing periodic interviews with each student individually to know his performance and problems.
9	Organizing periodic meeting with faltering student individually to know his performance and problems.
10	Inviting students to register in the College of Engineering Club and urging the creative ones to participate in the club's activities

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11	Executing a seminar to explain the benefits from enrolment in Postgraduate Programs which return to the students and the effect of that on the available job Opportunities for their specialties.
12	Executing a briefing to explain the importance of Questionnaires that express the extent to which students are satisfied with the academic and professional guidance services provided to students
13	Sending invitations regularly to students through emails encouraging them to visit the counseling office to discuss and review their academic and nonacademic problems.
14	Organizing Seminar to enhance students' skills based on the PLOs and the market needs.
15	Organizing a day to present students' graduation projects and awarding the best project during the current academic year

Seventh: students' evaluation for the plan

- Distribute the evaluation forms to students at the end of each semester and grant them the freedom to express their opinions through closed and open questions without writing their names.
- Examination and discussion of the reports submitted by the academic advisors at the end of each semester related to the reports of meetings with students to assess the extent of commitment to implementing the activities of the plan.

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3. Alumni

The following Table 3 shows the number of students in the class of 1428 H that graduated in 1432/1433 H until the class of 1441 H that graduated on 1445 H.

#	Class of	Number of Graduates	Notes
1	1428	49	
2	1429	29	
3	1430	22	
4	1431	94	with Tajseer students
5	1432	45	
6	1433	48	with Tajseer students
7	1434	50	
8	1435	33	
9	1436	37	with Tajseer students
10	1437	33	with Tajseer students
11	1438	20	
12	1439	34	
13	1441	37	
14	1442	-	
15	1443	-	
16	1444	-	
17	1445	-	
Total number of graduates			531 Students

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The following Table 4 shows the names of those graduating students

#	ID	Name	Major
1	42800272	مشعل حسن غرم الله الهمله الزهراني	Electrical Engineering
2	42800289	محمد أحمد دربي آل احمد الغامدي	Electrical Engineering
3	42800294	أحمد عبدالرحيم عبدالله آل سرحان	Electrical Engineering
4	42800336	عمر محمد عبدالله الحسني الزهراني	Electrical Engineering
5	42800367	محمد حسن عبدالله الجروان المعاوي	Electrical Engineering
6	42800630	محمد عوض مسفر آل محسون الشمراني	Electrical Engineering
7	42800631	أحمد فهد أحمد الغميطي	Electrical Engineering
8	42800643	أحمد قليل خضران البشيري الزهراني	Electrical Engineering
9	42800649	عبدالله خميس سعيد غامدي	Electrical Engineering
10	42800656	عبدالله مشرف محمد العياضي الغامدي	Electrical Engineering
11	42800826	أحمد صالح محمد آل مهدي الزهراني	Electrical Engineering
12	42800845	محمد عبدالله علي الزهيري الغامدي	Electrical Engineering
13	42800952	وليد سعيد دخيل الله آل عايد الغامدي	Electrical Engineering
14	42801011	سعيد أحمد سعيد آل مرمش الغامدي	Electrical Engineering
15	42801014	مساعد محمد مساعد آل مساعد الغامدي	Electrical Engineering
16	42801020	سعيد حمدان عائض الرفاعي الغامدي	Electrical Engineering
17	42801030	خالد عبدالله احمد آل عيسى الغامدي	Electrical Engineering
18	42801051	سالم عبدالله عبدالحميد الجعيدي الغامدي	Electrical Engineering
19	42801055	سلمان عبدالعزيز احمد العامري الزهراني	Electrical Engineering
20	42801065	عبدالعزيز محمد علي آل موسى الغامدي	Electrical Engineering
21	42801084	مهدي عبدالناصر علي الكرت	Electrical Engineering
22	42801089	نواف جمعان غرم الله آل شويل الزهراني	Electrical Engineering
23	42801095	محمد صالح زياد الخثيمي الغامدي	Electrical Engineering
24	42801107	أحمد عيسى عبدالرحمن الشيخ	Electrical Engineering
25	42801120	ابراهيم احمد حامد الفقية الغامدي	Electrical Engineering
26	42801128	أحمد موسى سعيد آل موسى الغامدي	Electrical Engineering
27	428011833	سعيد سعد سعيد الزهراني	Electrical Engineering
28	428011856	عثمان سعيد غرم الله المقشعي	Electrical Engineering
29	42801188	خالد محمد حمدان الجروان المعاوي	Electrical Engineering
30	428012093	عطيه احمد عطيه الزهراني	Electrical Engineering
31	42801218	عمران سعيد عيظة ال دريب الزهراني	Electrical Engineering
32	42801230	عبدالله علي دخيل الله الزهيري الغامدي	Electrical Engineering
33	428014098	سعد عطية الله سعيد الاحمدي الزهراني	Electrical Engineering
34	428014116	ثامر سعدي عيد الغامدي	Electrical Engineering
35	42801444	سعيد عيظه احمد آل خاتم الزهراني	Electrical Engineering
36	42801455	مطر محمد رزق الله المفضلي الزهراني	Electrical Engineering
37	42801459	احمد بلغيث محمد آل زهيد العلياني	Electrical Engineering
38	42801461	نواف عبدالرحمن عبدالله الجيلاني الغامدي	Electrical Engineering
39	42801488	محمد احمد علي الشهري	Electrical Engineering

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#	ID	Name	Major
40	42801510	علي بن سعد بن ظافر آل ناله القرني	Electrical Engineering
41	42801541	محمد علي عبدالله العلي الزهراني	Electrical Engineering
42	42801586	مجدي بن علي بن ال صغير الغامدي	Electrical Engineering
43	42801589	سلطان سحمي احمد آل بركات الغامدي	Electrical Engineering
44	42801605	سامي منصور عبدالخالق سالم القرني	Electrical Engineering
45	42801629	مازن عبداللطيف محمد خنفر	Electrical Engineering
46	42801670	ابراهيم عوض سعيد ابو خضاعة القحطاني	Electrical Engineering
47	42801755	عبدالله جمعان حمدان الطفيلي الزهرني	Electrical Engineering
48	42801819	سعود عبدالله حسن الطليحي الخزاعي	Electrical Engineering
49	42801858	عبدالعزيز علي ابراهيم آل جعر الغامدي	Electrical Engineering
50	42900022	بندر رشود سحمي الغامدي	Electrical Engineering
51	42900028	احمد محمد بخيت الزهراني	Electrical Engineering
52	42900034	محمد احمد محمد الزهراني	Electrical Engineering
53	42900036	منصور محمد عبدالله الزهراني	Electrical Engineering
54	42900039	احمد عبدالله حمدان الزهراني	Electrical Engineering
55	42900045	عبدالعزيز علي حسن الزهراني	Electrical Engineering
56	42900054	فهد محمد سالم القرني	Electrical Engineering
57	42900064	صالح عبدالله صالح الغامدي	Electrical Engineering
58	42900068	عبدالمجيد نايف عبدالمجيد الزهراني	Electrical Engineering
59	42900072	وافي محمد سعد الغامدي	Electrical Engineering
60	42900091	مصعب علي محفوظ الغامدي	Electrical Engineering
61	42900103	فارس أحمد صالح عيفان	Electrical Engineering
62	42900105	بدر صافي مساعد الزهراني	Electrical Engineering
63	42900110	فيصل فهد غرم الله الغامدي	Electrical Engineering
64	42900112	سعد عبد الله سعد الشهري	Electrical Engineering
65	42900117	سامي عوض علي الزهراني	Electrical Engineering
66	42900125	محمد عبد الله محمد الزهراني	Electrical Engineering
67	42900133	خالد صالح زياد الغامدي	Electrical Engineering
68	42900138	يوسف عبد الرحمن عوضة الغامدي	Electrical Engineering
69	42900139	سيف سعيد عزيز الغامدي	Electrical Engineering
70	42900142	عبد الله احمد سعيد الغامدي	Electrical Engineering
71	42900146	مصلح أحمد مصلح العامري	Electrical Engineering
72	42900148	ثامر عبد الرحمن هاشم الغامدي	Electrical Engineering
73	42900163	أحمد بن محمد بن علي البهلوان الغامدي	Electrical Engineering
74	42900169	سامي أحمد يحي الزهراني	Electrical Engineering
75	42900173	سعيد علي سعيد الغامدي	Electrical Engineering
76	42900178	صالح محمد فهم الغامدي	Electrical Engineering
77	42900532	تركي امبارك محمد الزهراني	Electrical Engineering
78	42900533	داؤد علي محمد الشهري	Electrical Engineering
79	430006273	ابراهيم محمد حسن الزهراني	Electrical Engineering
80	430007077	عبدالعزيز ناصر سالم الغامدي	Electrical Engineering

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#	ID	Name	Major
81	430007377	احمد علي سعيد الزهراني	Electrical Engineering
82	430007397	خضر احمد سعيد الزهراني	Electrical Engineering
83	430007667	رائد حناس سفر الزهراني	Electrical Engineering
84	430008152	عبدالعزيز خميس ضيف الله الزهراني	Electrical Engineering
85	430008750	خالد سعد عبدالله الشهراني	Electrical Engineering
86	430008868	سامي عبدالخالق عبدالله الغامدي	Electrical Engineering
87	430009152	عبدالعزيز حسن عتيق الزهراني	Electrical Engineering
88	430009245	فهد محمد عطيه الزهراني	Electrical Engineering
89	430009708	عبدالرحمن غازي علي الغامدي	Electrical Engineering
90	430010478	عبدالله مبارك فهيد الشهراني	Electrical Engineering
91	430010565	فهد محمد مبارك الدوسري	Electrical Engineering
92	430010586	فهد عائض مبارك الغامدي	Electrical Engineering
93	430011144	محمد يحي محمد العمري	Electrical Engineering
94	430011380	يوسف سالم محمد الكثيري	Electrical Engineering
95	430011858	عبدالله محمد مشعي السبيعي	Electrical Engineering
96	430011956	احمد راشد معيض الزهراني	Electrical Engineering
97	430012140	محمد بن عبدالله بن موسى الجهيب الصمداني	Electrical Engineering
98	430012262	عبدالله حسن هادي الحلافي	Electrical Engineering
99	430012741	علي عواض مشرف الغامدي	Electrical Engineering
100	430012900	محمد عبدالرحمن محمود الحارثي	Electrical Engineering
101	431000640	وليد محمد ابن عثمان الغامدي	Electrical Engineering
102	431001056	محمد صالح احمد الزهراني	Electrical Engineering
103	431001193	اياد محمد احمد الغامدي	Electrical Engineering
104	431001215	شاكر محمد احمد الغامدي	Electrical Engineering
105	431002019	يوسف عبدالرحمن بن بخيت الزهراني	Electrical Engineering
106	431002152	محمد صموت بن جودالله البحيري	Electrical Engineering
107	431002643	عبدالله احمد بن سالم الغامدي	Electrical Engineering
108	431002718	عبدالمحسن علي بن سعد الغامدي	Electrical Engineering
109	431002764	ايوب مجدوع بن سعيد أبوراس	Electrical Engineering
110	431002926	سعيد حسين بن سعيد الغامدي	Electrical Engineering
111	431003003	عبدالحميد علي بن سفر الغامدي	Electrical Engineering
112	431003198	عبدالله احمد بن صالح الغامدي	Electrical Engineering
113	431005054	عبدالعزيز ربيع بن مسفر الزهراني	Electrical Engineering
114	431005153	علي محمد بن معيض الزهراني	Electrical Engineering
115	431005216	عثمان علي بن موسى الزهراني	Electrical Engineering
116	431005312	فهد محمد بن يحي الزهراني	Electrical Engineering
117	431005333	عبدالواحد سعيد بن يحيى الزهراني	Electrical Engineering
118	431005420	احمد غرم الله جارالله الزهراني	Electrical Engineering
119	431005723	صالح سعيد حسن الزهراني	Electrical Engineering
120	431005813	نايف علي حسن الغامدي	Electrical Engineering
121	431006172	عصام احمد خضر الزهراني	Electrical Engineering

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#	ID	Name	Major
122	431006608	ابراهيم سراج سحمي الغامدي	Electrical Engineering
123	431006762	ريان خالد سعد المالكي	Electrical Engineering
124	431006899	صالح خالد سعيد الزهراني	Electrical Engineering
125	431006957	هيثم احمد سعيد الزهراني	Electrical Engineering
126	431007029	تركي بريد سعيد الغامدي	Electrical Engineering
127	431007183	مسفر مساعد سفير الخثعمي	Electrical Engineering
128	431007197	سلطان عبدالله سلطان بن لزهر	Electrical Engineering
129	431007348	عبدالله صالح شهوان الزهراني	Electrical Engineering
130	431007385	احمد يحي صالح الزهراني	Electrical Engineering
131	431007540	محمد عبدالله صالح الغامدي	Electrical Engineering
132	431007544	محمد علي صالح الغامدي	Electrical Engineering
133	431007807	محمد سعد عالي الغامدي	Electrical Engineering
134	431007826	علي راشد عايد الغامدي	Electrical Engineering
135	431008194	عثمان سعيد عبدالله الزهراني	Electrical Engineering
136	431008569	عبدالهادي سالم عبدالهادي الغامدي	Electrical Engineering
137	431009096	علي عبدالله علي الشمراني	Electrical Engineering
138	431009277	عبدالعزيز عبدالله علي الغامدي	Electrical Engineering
139	431010456	عبدالمجيد علي محمد الزهراني	Electrical Engineering
140	431010461	علي سعيد محمد الزهراني	Electrical Engineering
141	431010545	علي عبدالله محمد الشمراني	Electrical Engineering
142	431010761	رايد عبدالله محمد الغامدي	Electrical Engineering
143	431013027	عبدالله سعيد عيسى الزهراني	Electrical Engineering
144	431013297	عبدالعزيز عبدالله بن علي الغامدي	Electrical Engineering
145	431013298	محمد احمد بن محمد الغامدي	Electrical Engineering
146	431013486	هيثم علي عواض العبدان الزهراني	Electrical Engineering
147	431013509	احمد عبدالرحمن صالح الزهراني	Electrical Engineering
148	431014235	عادل سعيد عبدالله البركات الغامدي	Electrical Engineering
149	431014236	احمد محمد عبدالله ال حميد الغامدي	Electrical Engineering
150	431014237	احمد محمد بخروش القريشي الزهراني	Electrical Engineering
151	431014238	مالك فهد عبدالعزيز الغامدي	Electrical Engineering
152	431014239	عبدالخالق محمد سعيد العمري الزهراني	Electrical Engineering
153	431014240	محمد عبدالله عبدالرحمن ال عبدالله الزهراني	Electrical Engineering
154	431014241	سلطان ندا سليم الديحاني	Electrical Engineering
155	431014250	عائض عوض عائض ال عوض الغامدي	Electrical Engineering
156	431014252	عصام حسن عبدالرحمن ال زهير الشهري	Electrical Engineering
157	431014253	طارق محمد احمد هيجان	Electrical Engineering
158	431014254	طلال علي سعيد الهندي الغامدي	Electrical Engineering
159	431014255	بدر عبدالله حامد المحمدي	Electrical Engineering
160	431014256	عبدالعزيز حزام علي سلطان ال سلطان	Electrical Engineering
161	431014258	جابر احمد محمد الداحشي الصالحي	Electrical Engineering
162	431014260	عبدالعزيز سعد عطيه الطيار الزهراني	Electrical Engineering

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#	ID	Name	Major
163	431014263	عمار سعيد خضر العمار الزهراني	Electrical Engineering
164	431014264	سعد امبارك علي الحلي الغامدي	Electrical Engineering
165	431014265	فهد غازي مشخص المخلفي	Electrical Engineering
166	431014266	فهد زيدان محمد ال جعاري الغامدي	Electrical Engineering
167	431014267	محمد سعيد محمد العويدي	Electrical Engineering
168	431014268	محمد عبدالخالق محمد المسعود الغامدي	Electrical Engineering
169	431014270	فهد صالح احمد الخديدي العتيبي	Electrical Engineering
170	431022831	أحمد يحيى محمد المنهبي	Electrical Engineering
171	431022841	بندر مطلق عبيد العتيبي	Electrical Engineering
172	431022846	حاتم عايض محسن الزهراني	Electrical Engineering
173	431022858	سعد أحمد عوض الزهراني	Electrical Engineering
174	431022869	سلطان سليم صالح الحجوري	Electrical Engineering
175	431022873	سليمان مرزوق مسيلم المطيري	Electrical Engineering
176	431022874	شادي صالح علي الغامدي	Electrical Engineering
177	431022876	صالح عبدالرحمن فهد العسرج	Electrical Engineering
178	431022877	صالح بن عبدالغني بن غرم الله ال ذيبان الغامدي	Electrical Engineering
179	431022879	طلال مبارك عيد الزهراني	Electrical Engineering
180	431022882	عامر إبراهيم محمد الشهر ي	Electrical Engineering
181	431022898	عبدالعزيز احمد زايد الزهراني	Electrical Engineering
182	431022903	عبدالله سعد عبدالله الوبران	Electrical Engineering
183	431022906	عبدالله معيض أحمد الخريصي الزهراني	Electrical Engineering
184	431022908	عبدالناصر عبدالوهاب عبدالهادي عبدالقادر	Electrical Engineering
185	431022915	فؤاد عبدالله صالح الغامدي	Electrical Engineering
186	431022928	ماجد سعد حنش الغامدي	Electrical Engineering
187	431022937	محمد سعد مسرع الميموني	Electrical Engineering
188	431022943	محمد مشبب محمد آل جعال	Electrical Engineering
189	431022949	مشعل يحيى علي الغامدي	Electrical Engineering
190	431022956	ناصر فهد ناصر ابا الحسن	Electrical Engineering
191	431022962	وائل علي صالح الغامدي	Electrical Engineering
192	431022966	ياسر صالح جار الله الزهراني	Electrical Engineering
193	431022969	يحي مدهش سعيد الأحمري	Electrical Engineering
194	431111221	سيف علي محمد الشهري	Electrical Engineering
195	432000382	طارق محمد ابن بشير الغامدي	Electrical Engineering
196	432000404	مهند علي ابن حامد ابوفيه	Electrical Engineering
197	432000475	دخيل عبدالله ابن دخيل الله العامري	Electrical Engineering
198	432000692	ظفير دخيل الله ابن عالي العامري	Electrical Engineering
199	432001021	غازي سليم ابن محمد الحارثي	Electrical Engineering
200	432001287	ابراهيم عوض احمد الحرازي	Electrical Engineering
201	432001342	احمد صالح احمد الزهراني	Electrical Engineering
202	432001467	محمد بخيت احمد الزهراني	Electrical Engineering
203	432001617	احمد محمد احمد الغامدي	Electrical Engineering

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204	432001622	احمد اسعد احمد الغامدي	Electrical Engineering
205	432001696	محمد حربي احمد الغامدي	Electrical Engineering
206	432001697	محمد الحسين احمد الغامدي	Electrical Engineering
207	432002649	مساعد علي بن احمد الغامدي	Electrical Engineering
208	432003405	سعيد صالح بن حمدان الغامدي	Electrical Engineering
209	432003533	عبدالله عائض بن خليوي الغامدي	Electrical Engineering
210	432003541	عبدالاله علي بن خميس الزهراني	Electrical Engineering
211	432003762	ريان ناصر بن سالم الغامدي	Electrical Engineering
212	432004140	عبدالرحمن عبدالعزيز بن سعيد الغامدي	Electrical Engineering
213	432004178	وليد خضران بن سعيد الغامدي	Electrical Engineering
214	432004209	احمد عبدالله بن سعيد غيلاني	Electrical Engineering
215	432004408	صالح يحى بن صالح الزهراني	Electrical Engineering
216	432004411	عبدالعزيز عطيه بن صالح الزهراني	Electrical Engineering
217	432004487	خالد احمد بن صالح الغامدي	Electrical Engineering
218	432004591	أحمد سعيد بن ضيف الله الزهراني	Electrical Engineering
219	432004792	عبدالرحمن مساعد بن عبدالرحمن الغامدي	Electrical Engineering
220	432005720	عدنان عطيه بن علي الزهراني	Electrical Engineering
221	432005968	عبدالرحمن صالح بن علي الغامدي	Electrical Engineering
222	432007650	عبدالله بن سعيد بن ناصر آل تومان الغامدي	Electrical Engineering
223	432008771	ماجد مسفر حمدان الزهراني	Electrical Engineering
224	432010056	أحمد عبدالله سعيد الغامدي	Electrical Engineering
225	432010613	سلمان يحى صالح الزهراني	Electrical Engineering
226	432012131	ابراهيم نايف عبدالمجيد الزهراني	Electrical Engineering
227	432012544	عبدالله حسن علي الحارثي	Electrical Engineering
228	432012846	علي محمد علي الشهري	Electrical Engineering
229	432013145	عبدالوهاب عبدالرحمن علي القرني	Electrical Engineering
230	432013196	محمد خالد علي المالكي	Electrical Engineering
231	432013919	خالد عبيد فالح آل عطيان	Electrical Engineering
232	432014134	عادل عبدالله مبارك الزهراني	Electrical Engineering
233	432014613	محمد حسن محمد الزهراني	Electrical Engineering
234	432015051	عبدالرحمن عبدالله محمد الغامدي	Electrical Engineering
235	432015057	عبدالله سعيد محمد الغامدي	Electrical Engineering
236	432015808	عايض حسين مسفر الوادعي	Electrical Engineering
237	432016161	عمر عبدالله منصور الشمراني	Electrical Engineering
238	432016516	محمد غرم الله هنيدي الزهراني	Electrical Engineering
239	432016598	اسامه علي يحي الغامدي	Electrical Engineering
240	433000038	محمد جمعان أحمد الزهراني	Electrical Engineering
241	433000114	عبدالرحمن سالم أحمد الغامدي	Electrical Engineering
242	433000115	عبدالرحمن صالح احمد الغامدي	Electrical Engineering
243	433000150	محمد احمد حامد الخلوفه الغامدي	Electrical Engineering
244	433001396	سعيد يوسف احمد الزهراني	Electrical Engineering

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#	ID	Name	Major
245	433001433	عبدالله سعيد احمد الزهراني	Electrical Engineering
246	433001656	محمد علي احمد العيسى	Electrical Engineering
247	433001730	ريان شيبان احمد الغامدي	Electrical Engineering
248	433001767	عمر محمد احمد الغامدي	Electrical Engineering
249	433002065	عبدالله عتيق بخيت الغامدي	Electrical Engineering
250	433004689	يوسف محمد حامد الغامدي	Electrical Engineering
251	433004967	عبدالعزيز منسي حسن العمري	Electrical Engineering
252	433004992	حسن غرسان حسن الغامدي	Electrical Engineering
253	433006784	أنور طارق سعيد الغامدي	Electrical Engineering
254	433006872	عبدالرحمن محمد سعيد الغامدي	Electrical Engineering
255	433007599	صالح عبدالله صالح الغامدي	Electrical Engineering
256	433007704	عبدالله هادي صالح الوادعي	Electrical Engineering
257	433007800	فيصل زيدان ضيف الله الغامدي	Electrical Engineering
258	433008073	عيسى علي عامر العماري	Electrical Engineering
259	433008637	عبدالرحمن محمد عبدالله الزهراني	Electrical Engineering
260	433009560	مشعل محمد عطيه الزهراني	Electrical Engineering
261	433009580	حسام علي عطيه الغامدي	Electrical Engineering
262	433009934	سلطان عبدالله علي الزهراني	Electrical Engineering
263	433010774	مؤيد عبدالله علي عسيري	Electrical Engineering
264	433011332	محمد صالح غرم الله الغامدي	Electrical Engineering
265	433011578	دخيل الله بخيت قينان الغامدي	Electrical Engineering
266	433011923	عبدالله حمدان محمد الخثعمي	Electrical Engineering
267	433012847	عبدالعزيز سعيد محمد القرني	Electrical Engineering
268	433013272	غرم الله حسن مروان البحيري	Electrical Engineering
269	433013532	ابراهيم جمعان مصقر الغامدي	Electrical Engineering
270	433014729	حسين جمعان حسين الغامدي	Electrical Engineering
271	433017507	سعيد سلطان عبدالله العامري البيشي	Electrical Engineering
272	433017515	احمد عبدالله ابراهيم مسعود الغامدي	Electrical Engineering
273	433017523	عبدالله صالح عبدالله ال جارالله الغامدي	Electrical Engineering
274	433017528	علي محمد سعيد خليف الغامدي	Electrical Engineering
275	433017531	محمد عبدالعزيز سعيد طجم	Electrical Engineering
276	433017534	عماد محمد سعيد خلبف الغامدي	Electrical Engineering
277	433017546	صالح عطيه سعد القضام الزهراني	Electrical Engineering
278	433017550	عبدالله علي عبدالرحمن المرشد الغامدي	Electrical Engineering
279	433017561	ثامر سعيد سفر ال شيبان الغامدي	Electrical Engineering
280	433017566	علي عبدالله علي جيلان الغامدي	Electrical Engineering
281	433017570	عبدالله عبدالعزيز علي ال خلوفه الخثعمي	Electrical Engineering
282	433017575	عبدالعزيز حامد محمد ال صمان الغامدي	Electrical Engineering
283	433017579	فهد عبدالعزيز حامد ال حوت الغامدي	Electrical Engineering
284	433017583	عادل محمد عبدالله عقش	Electrical Engineering
285	433017586	مصطفى يحيي عبدالله مهدلي	Electrical Engineering

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#	ID	Name	Major
286	433017588	معيض علي معيض ال مسفر الغامدي	Electrical Engineering
287	433017591	مسفر صالح سعيد النجم الغامدي	Electrical Engineering
288	434000263	رياض سعيد بن احمد الغامدي	Electrical Engineering
289	434000479	عبدالرحمن سالم ابن سعد الغامدي	Electrical Engineering
290	434000703	ريان عبيدالله ابن عبدالله الغامدي	Electrical Engineering
291	434000850	عبدالعزيز عبدالرحمن ابن علي الغامدي	Electrical Engineering
292	434001086	سياف بن احمد بن محمد جليد	Electrical Engineering
293	434001189	سلطان عبدالرحمن ابوبكر المالكي	Electrical Engineering
294	434001376	فيصل جمعان احمد الزهراني	Electrical Engineering
295	434001510	ابراهيم محمد احمد الغامدي	Electrical Engineering
296	434001615	مرعي علي احمد القرني	Electrical Engineering
297	434001881	محمد عارف بن أحمد الزهراني	Electrical Engineering
298	434002937	علي احمد بن حسين العمري	Electrical Engineering
299	434003085	علي مستور بن خليل الدنيش العمري	Electrical Engineering
300	434003142	عامر بن ياسر بن درويش الغامدي	Electrical Engineering
301	434003165	محمد مسفر بن راجح الغامدي	Electrical Engineering
302	434003716	محمد علي بن سفر الغامدي	Electrical Engineering
303	434004169	فارس عبدالله بن عبدالحميد الغامدي	Electrical Engineering
304	434004198	علي احمد بن عبدالرحمن الزهراني	Electrical Engineering
305	434004790	عثمان عبدالله بن عثمان الزهراني	Electrical Engineering
306	434004803	عبدالله احمد بن عثمان الغامدي	Electrical Engineering
307	434005848	زياد منصور بن مجحود الغامدي	Electrical Engineering
308	434006965	علي احمد بن يحي الزهراني	Electrical Engineering
309	434007193	عبدالرحمن احمد جمعان الغامدي	Electrical Engineering
310	434007328	يحيى محمد حزام الزهراني	Electrical Engineering
311	434007827	عبدالله بن احمد بن حنش ال مانع	Electrical Engineering
312	434008851	عبدالرحمن أحمد سعيد الغامدي	Electrical Engineering
313	434008872	فيصل محمد سعيد الغامدي	Electrical Engineering
314	434008944	عبدالرحمن صالح سعيد هادي	Electrical Engineering
315	434009072	يوسف سودان سويدان المالكي	Electrical Engineering
316	434009332	فيصل عبدالله صالح الغامدي	Electrical Engineering
317	434009425	عبدالعزيز بن مسفر بن صندل الغامدي	Electrical Engineering
318	434009819	عبدالعزيز محمد عبدالعزيز الغامدي	Electrical Engineering
319	434010132	يوسف حسن عبدالله العامري	Electrical Engineering
320	434010544	خالد عبدالله عثمان القاشي	Electrical Engineering
321	434010635	أحمد علي عطيه المالكي	Electrical Engineering
322	434011057	علي صالح علي العيسي	Electrical Engineering
323	434011099	عبدالرحمن عبدالله علي الغامدي	Electrical Engineering
324	434011540	بهيان محمد عوض القرني	Electrical Engineering
325	434011560	عبدالله عويض عوض المطيري	Electrical Engineering
326	434011767	أنس سعيد غرم الله الغامدي	Electrical Engineering

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#	ID	Name	Major
327	434012307	عبدالرحمن حسن محمد الزهراني	Electrical Engineering
328	434012321	عبدالكريم عبدالله محمد الزهراني	Electrical Engineering
329	434012826	عبدالسلام ناصر محمد القرني	Electrical Engineering
330	434013091	فارس الحسين مذكر الزهراني	Electrical Engineering
331	434013186	حسام علي مسعود الزهراني	Electrical Engineering
332	434013273	فواز محمد مسفر الغامدي	Electrical Engineering
333	434013449	عبدالرحمن عصام معيض الزهراني	Electrical Engineering
334	434013650	موسى جندب موسى الثقفي	Electrical Engineering
335	434013734	عبدالكريم محمد ناصر القرني	Electrical Engineering
336	434017461	أحمد سمير شمالي	Electrical Engineering
337	434017462	أسامه محمود كيوان	Electrical Engineering
338	435000047	عمر ذياب أحمد النجم	Electrical Engineering
339	435000395	عبدالله صالح ابن سالم الغامدي	Electrical Engineering
340	435000523	يونس عبدالله ابن سليمان العمري	Electrical Engineering
341	435000708	ماجد عبيدالله ابن عبدالله دخيخ	Electrical Engineering
342	435000786	علي حمدان ابن علي العامري	Electrical Engineering
343	435000917	خالد محمد ابن غرم الله الغامدي	Electrical Engineering
344	435000953	مهند احمد ابن مجحود الغامدي	Electrical Engineering
345	435001016	عامر عبدالله ابن محمد الغامدي	Electrical Engineering
346	435001238	احمد محمد احمد هياس الزهراني	Electrical Engineering
347	435002668	سعيد عبدالله بن حسن الزهراني	Electrical Engineering
348	435003802	صديق صالح بن صافي العمري الزهراني	Electrical Engineering
349	435004550	صابر ناصر بن عبدالله الغامدي	Electrical Engineering
350	435004719	احمد عبدالله بن عبدالهادي الغامدي	Electrical Engineering
351	435004830	ظافر علي بن عطيه الزهراني	Electrical Engineering
352	435008389	سلطان صالح سعود الغامدي	Electrical Engineering
353	435008516	وليد احمد سعيد الزهراني	Electrical Engineering
354	435009274	عائض بخيت عائض الغامدي	Electrical Engineering
355	435009583	عبدالرحمن علي عبدالله آل جرمان الاسمري	Electrical Engineering
356	435009867	عبدالله نائف عبدالله الغامدي	Electrical Engineering
357	435009957	عبدالعزيز سعيد عبدالله المالكي	Electrical Engineering
358	435010001	عبدالله عطيه عبدالمجيد الزهراني	Electrical Engineering
359	435010147	تركي محمد عطيه الزهراني	Electrical Engineering
360	435010508	مهند محمد علي العمري	Electrical Engineering
361	435011108	عبدالعزيز عبدالله غازي العلياني	Electrical Engineering
362	435011274	محمد مبارك فهيد الشهراني	Electrical Engineering
363	435011374	عبدالرحمن احمد مجحود الزهراني	Electrical Engineering
364	435011418	راشد مشبب محمد آل مهمل	Electrical Engineering
365	435012569	فارس معيض مطلق الغامدي	Electrical Engineering
366	435012702	عائض شارع مفلح الغامدي	Electrical Engineering
367	435012779	جابر محمد مهدي الزهراني	Electrical Engineering

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#	ID	Name	Major
368	435012806	عادل احمد موسى الزهراني	Electrical Engineering
369	435013092	فارس عبدالله يحيى الغامدي	Electrical Engineering
370	435003945	منذر معيض صالح الغامدي	Electrical Engineering
371	436000393	عبدالعزيز عبدالرحمن ابن سعيد الغامدي	Electrical Engineering
372	436000583	عبدالله خالد ابن عبدالله الغامدي	Electrical Engineering
373	436000667	أحمد ظافر ابن علي الغامدي	Electrical Engineering
374	436000690	خالد سعيد ابن علي آل فائز الغامدي	Electrical Engineering
375	436000726	محمد عبدالله ابن علي الغامدي	Electrical Engineering
376	436000956	خالد سعيد ابن مناحي الغامدي	Electrical Engineering
377	436001176	احمد عبدالله احمد آل عطيه الغامدي	Electrical Engineering
378	436001235	عيسى سعيد احمد الغامدي	Electrical Engineering
379	436001760	عبدالعزيز غرم الله بن احمد الغامدي	Electrical Engineering
380	436002002	بندر حسن بن حاضر الغامدي	Electrical Engineering
381	436002135	بدر عبدالله بن حسن العمري	Electrical Engineering
382	436002578	ريان محمد بن سعيد آل مديس	Electrical Engineering
383	436002694	تركي علي بن سعيد العمري	Electrical Engineering
384	436004080	علي ناصر بن علي الغامدي	Electrical Engineering
385	436004720	علي احمد بن محمد العمري	Electrical Engineering
386	436005509	أنس احمد حامد الغامدي	Electrical Engineering
387	436005581	عبدالعزيز احمد حسن الزهراني	Electrical Engineering
388	436006445	عامر محمد سعيد الشهري	Electrical Engineering
389	436006485	رايد ناصر سعيد الغامدي	Electrical Engineering
390	436006678	فيصل عبدالله شاكر الشهري	Electrical Engineering
391	436006883	احمد محمد صالح غامدي	Electrical Engineering
392	436006989	سعد محمد عائض الغامدي	Electrical Engineering
393	436007424	خالد عبدالرحمن عبدالله الغامدي	Electrical Engineering
394	436007639	علي محمد عثمان الزهراني	Electrical Engineering
395	436007853	عطيه محمد علي الزهراني	Electrical Engineering
396	436008016	محمد حسين علي الغامدي	Electrical Engineering
397	436009015	نائف علي محمد الغامدي	Electrical Engineering
398	436009025	وليد ابراهيم محمد الغامدي	Electrical Engineering
399	436009349	خالد علي مسفر الغامدي	Electrical Engineering
400	436009563	محمد سعد منسى الغامدي	Electrical Engineering
401	436009860	صالح مجحود قاسم الزهراني	Electrical Engineering
402	436009935	سعيد احمد عبدالعزيز ال طالع الغامدي	Electrical Engineering
403	436009937	حمود غرم علي البطنين الشمراني	Electrical Engineering
404	436009938	عبدالله ناصر محمد الشهراني	Electrical Engineering
405	436006351	خال معيض سعيد الزهراني	Electrical Engineering
406	436009043	محمد بن فيصل بن محمد آل دهوي القحطاني	Electrical Engineering
407	436012787	باسم غرم الله الكناني الزهراني	Electrical Engineering
408	437000582	أنس ظافر ابن علي الغامدي	Electrical Engineering

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409	437000698	ماجد احمد ابن مجحود الغامدي	Electrical Engineering
410	437001031	احمد عبدالله احمد العمري	Electrical Engineering
411	437001103	عبدالملك عبدالرحمن احمد الغامدي	Electrical Engineering
412	437001173	عبدالرحمن منصور احمد العامري	Electrical Engineering
413	437001440	خالد سعيد بن احمد الزهراني	Electrical Engineering
414	437001511	نواف عيسى بن احمد الزهراني	Electrical Engineering
415	437001572	يزيد علي بن احمد العماري	Electrical Engineering
416	437002980	يزيد محمد بن صالح الغامدي	Electrical Engineering
417	437002984	عبدالعزيز ضيف الله بن صالح القرني	Electrical Engineering
418	437003350	عادل سعيد بن عبدالله الزهراني	Electrical Engineering
419	437003613	محمد محروس بن عبدالمحسن الحسن	Electrical Engineering
420	437003985	موسى جعفر بن علي السلطان	Electrical Engineering
421	437004265	عبدالعزيز محمد بن عميش الغامدي	Electrical Engineering
422	437004800	رياض احمد بن محمد الغامدي	Electrical Engineering
423	437004880	يزيد احمد بن محمد الغامدي	Electrical Engineering
424	437005020	مهند صالح بن مريسي الغامدي	Electrical Engineering
425	437005646	حسن محمد حسن العمري	Electrical Engineering
426	437005836	حاتم بدر خشيم المطيري	Electrical Engineering
427	437007199	عبدالله احمد عبدالله الزهراني	Electrical Engineering
428	437007680	خالد عبدالله علي الزهراني	Electrical Engineering
429	437007854	زياد سعيد علي الغامدي	Electrical Engineering
430	437008170	فيصل مساعد عيضه ال عصيدان	Electrical Engineering
431	437009085	عمر امبارك مسفر الزهراني	Electrical Engineering
432	437009786	ياسر بن عاطف بن سلمان الكريمي العمري	Electrical Engineering
433	437009789	غرم الله بن عاضه بن سعد ال غوينم العلياني	Electrical Engineering
434	437009792	نائف بن احمد بن علي سهلي حكمي	Electrical Engineering
435	437000357	اسامة محمد ابن سعيد كديني	Electrical Engineering
436	437000977	عبدالله سعيد احمد الزهراني	Electrical Engineering
437	437003400	سامي محمد عبدالله السهيمي	Electrical Engineering
438	437004079	خالد مشني بن علي الغامدي	Electrical Engineering
439	437005635	بدر محمد حسن الشهري	Electrical Engineering
440	437009639	سيف الله نورأحمد حبيب الرحمن	Electrical Engineering
441	438000365	أمجد منصور صالح الغامدي	Electrical Engineering
442	438002605	عبدالله بن محمد بن عبدالله الغامدي	Electrical Engineering
443	438004291	حامد غرسان حسن الغامدي	Electrical Engineering
444	438005009	عبدالمجيد عبدالله خيشان الزهراني	Electrical Engineering
445	438005038	خالد بن عبدالله بن دخيل الله الرفاعي الغامدي	Electrical Engineering
446	438005197	ناصر سويد زين الغامدي	Electrical Engineering
447	438005345	عبدالرحمن بن بلغيث بن سعد العامري	Electrical Engineering
448	438005500	ريان احمد سعد آل صعب	Electrical Engineering
449	438005676	رامي عبدالرحمن سعيد الزهراني	Electrical Engineering

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450	438006237	محمد علي بن صالح الزهراني	Electrical Engineering
451	438008920	سامي علي عوض الغامدي	Electrical Engineering
452	438009164	أسامة بن سعيد بن غرم الله الغامدي	Electrical Engineering
453	438009206	عبدالله صالح غرم الله الغامدي	Electrical Engineering
454	438010711	أحمد عبدالعزيز مسفر الزهراني	Electrical Engineering
455	438011178	المعتز محمد ناجي الغامدي	Electrical Engineering
456	438011281	نايف سفر نوار الغامدي	Electrical Engineering
457	438012918	خالد علي عطية الغامدي	Electrical Engineering
458	438013000	عبدالرحمن محمد توفيق	Electrical Engineering
459	438013004	خالد محمود عبدالجليل	Electrical Engineering
460	438007233	عبدالله سعد عبدالله العمري	Electrical Engineering
461	439007562	مشاري بن عبدالرحمن بن عبدالله آل عيفان الغامدي	Electrical Engineering
462	439006931	ثامر بن سعيد بن حمدان الخميس الغامدي	Electrical Engineering
463	439000146	علي بن خالد بن خليل آل صيدان الزهراني	Electrical Engineering
464	439003073	عبدالعزيز بن بخات بن سعيد آل جارالله الغامدي	Electrical Engineering
465	439003544	عبدالسلام بن محمد بن دخيل الله آل عايد الغامدي	Electrical Engineering
466	439004153	محمد بن احمد بن حامد آل حمود الغامدي	Electrical Engineering
467	439005282	فهد بن عبد الله بن حسن الخزمري الزهراني	Electrical Engineering
468	439005595	أحمد بن محمد بن دخيل الله ال خلوفه الخثعمي	Electrical Engineering
469	439006060	عبدالعزيز بن محمد بن حوتان ال فلاح الغامدي	Electrical Engineering
470	439007562	مشاري بن عبدالرحمن بن عبدالله آل عيفان الغامدي	Electrical Engineering
471	439008771	معاذ بن خالد بن عبدالله الحريري الزهراني	Electrical Engineering
472	439012202	نواف بن عبدالله بن سليم الحسني الزهراني	Electrical Engineering
473	439013114	عبدالمجيد عبدالله محمد السحار الغامدي	Electrical Engineering
474	439013138	عبدالعزيز بن موسى بن محمد آل عصيدان الزهراني	Electrical Engineering
475	439005282	فهد بن عبد الله بن حسن الخزمري الزهراني	Electrical Engineering
476	439014254	مازن بن شاكر بن محمد آل جبران الزهراني	Electrical Engineering
477	439003866	نواف بن ناصر بن محمد آل مصلح القرني	Electrical Engineering
478	439003161	أياد بن محمد بن حسن الحسني الزهراني	Electrical Engineering
479	439003255	سعيد بن فيصل بن سعيد قشاش الغامدي	Electrical Engineering
480	439001740	احمد بن صالح بن احمد آل سليم الزهراني	Electrical Engineering
481	439013108	مهند محمد عوض ال مخشوشه القرني	Electrical Engineering
482	439004287	محمد بن علي بن حسين الحسين الزهراني	Electrical Engineering
483	439008508	عبدالعزيز سعيد بن علي الحسني الزهراني	Electrical Engineering
484	439007416	سلطان بن عائض بن محمد الرفاعي الغامدي	Electrical Engineering
485	439002901	فهد بن جمعان بن عيضه العاصمي المالكي	Electrical Engineering
486	439011248	عبدالعزيز بن جمعان بن سعيد العدواني الزهراني	Electrical Engineering
487	439007867	سلطان بن صالح بن عبدالله الشبيه العماري	Electrical Engineering
488	439003109	سعد علي خضر آل سعد الزهراني	Electrical Engineering
489	439004175	عبدالله بن سفر بن ساعد الغامدي	Electrical Engineering
490	439006023	سعد بن عبدالله بن سعد آل قربيه القرني	Electrical Engineering
491	439002900	عمر بن خضران بن بخيت الفهمي الزهراني	Electrical Engineering

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#	ID	Name	Major
492	439011306	عبدالله بن محمد بن يحي القحمان الزهراني	Electrical Engineering
493	439003541	احمد بن محمد بن عبدالله الحاوي الزهراني	Electrical Engineering
494	439003216	مهند سالم ساعد الجهلاني المالكي	Electrical Engineering
495	441017363	عبدالسلام احمد سليمان العواد	Electrical Engineering
496	441017300	احمد السيد محمد غنيمى	Electrical Engineering
497	441012676	سيف بن محسن بن حسن الزهيري الغامدي	Electrical Engineering
498	441013062	عبدالوهاب بن عبدالله بن سعيد ال نفران الزهراني	Electrical Engineering
499	441012387	سعيد بن عبدالله بن غرم الله آل مطر الغامدي	Electrical Engineering
500	441011748	شهاب بن سعيد ابن صالح العجب الغامدي	Electrical Engineering
501	441011197	يزيد بن جمعان بن سفر آل عجيبه الغامدي	Electrical Engineering
502	441011521	عبدالرحمن بن عبدالله بن غرم الله آل مطر الغامدي	Electrical Engineering
503	441009975	نواف بن احمد بن علي آل موجان الغامدي	Electrical Engineering
504	441010057	خالد يحيى محمد العمري	Electrical Engineering
505	441008923	همام بن محمد بن علي الشعلان الغامدي	Electrical Engineering
506	441008344	محمد بن جمعان بن احمد ال فرحه الغامدي	Electrical Engineering
507	441007420	محمد بن خالد بن منسي الجليد الغامدي	Electrical Engineering
508	441005049	سعيد بن عبدالله بن عبدالخالق الكناني الزهراني	Electrical Engineering
509	441004543	ثامر بن عبدالله بن حامد آل حبيش الغامدي	Electrical Engineering
510	441003561	ثامر بن منصور بن سعيد المقدم الغامدي	Electrical Engineering
511	441002453	عصام بن عزيز بن مسيب ال سعد الزهراني	Electrical Engineering
512	441000346	عبدالمجيد مسعود احمد الجبره العيسي	Electrical Engineering
513	441001566	عبدالله بن ابراهيم بن سحمي آل طراد الغامدي	Electrical Engineering
514	441013898	عبد الرحمن بن سعيد بن جمعان الخزمري الزهراني	Electrical Engineering
515	441013559	فيصل بن تركي بن سعد آل علي الغامدي	Electrical Engineering
516	441011856	مشاري بن محمد بن موسى الحسني الزهراني	Electrical Engineering
517	441011853	عبدالرحمن بن طلال بن عمر آل شيبان الغامدي	Electrical Engineering
518	441010941	فارس بن احمد بن علي آل جرشي الغامدي	Electrical Engineering
519	441011745	نواف بن عبدالعزيز بن محمد المشارفه العمري	Electrical Engineering
520	441010844	نواف بن ابراهيم بن غرم الله آل فرحان الزهراني	Electrical Engineering
521	441009168	عبدالله بن احمد بن فرحه الثعبان الغامدي	Electrical Engineering
522	441004887	عبدالاله بن خضران بن منسي ال عصيدان الزهراني	Electrical Engineering
523	441002480	عبدالعزيز بن محمد بن سعيد آل سعيد الغامدي	Electrical Engineering
524	441004087	باسل بن محمد بن عبدالله الحاوي الزهراني	Electrical Engineering
525	441005875	جاسر بن متعب بن حبيجان العلوي الزهراني	Electrical Engineering
526	441010333	عبدالرحمن بن احمد بن عبدالله الحاوي الزهراني	Electrical Engineering
527	441013478	اسامه بن صقر بن يعن الله آل يعن الله الغامدي	Electrical Engineering
528	441017301	مصطفى احمد ابو الاسعاد خليل جعفر	Electrical Engineering
529	441017346	منير عبدالله سعيد جابر	Electrical Engineering
530	441016338	الوليد بن عبدالله بن احمد العياشي الزهراني	Electrical Engineering
531	441015867	محمد عبدالله جمعان الخزمري الزهراني	Electrical Engineering

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4. Faculty and Staff Directory

The electrical engineering department constitutes the head of the department who manages the department's academic and administrative affairs. The department council committee includes all of the faculty members who are responsible for issuing and making critical decisions in the department that are necessary for counseling and sharing experiences. The faculty and staff members of the electrical engineering department additionally contribute to different committees to manage various tasks and different responsibilities. Figure (1) shows the organizational and administrative structure of the electrical engineering department. At the start of the academic year 1445 H (2023-2024AD), the electrical engineering department has 21 faculty members, and 3 electrical laboratory technicians.

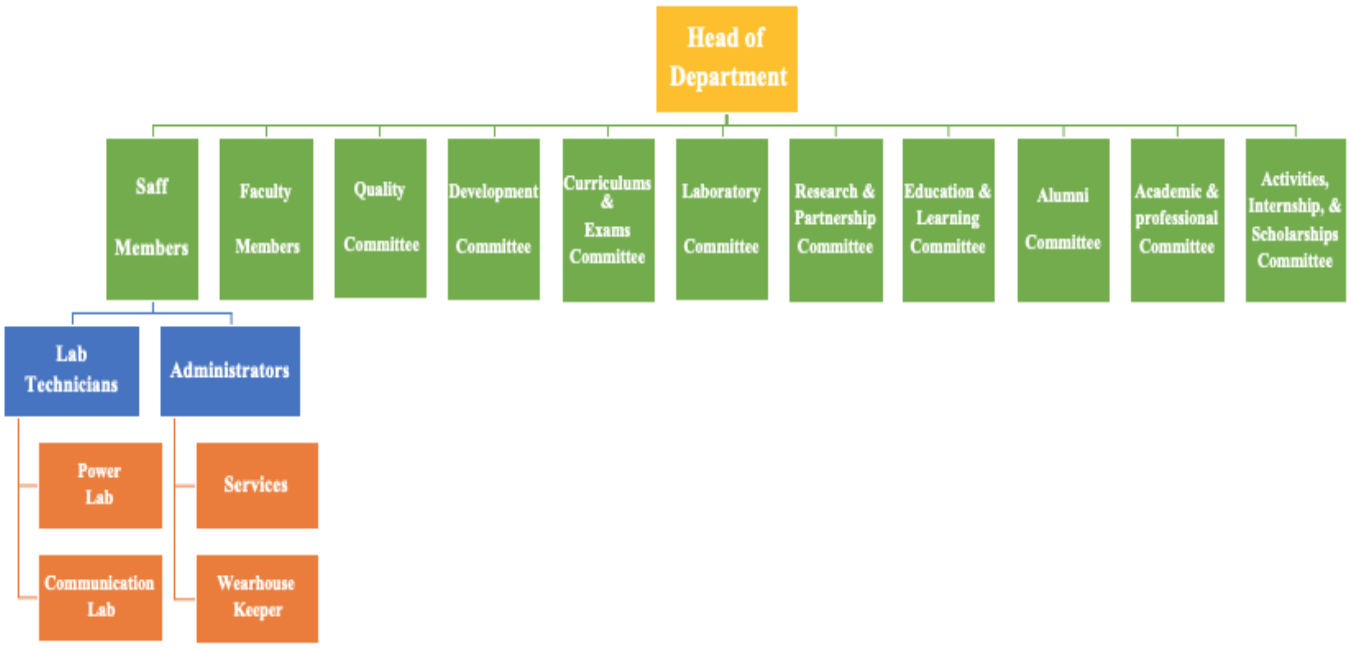

Figure (1): the organizational and administrative structure of the electrical engineering department.

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Name	**Dr. Zuahir Alqarni**
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Dr. Zuhair Alqarni received the B.Sc. degree in electrical engineering from Umm Al Qura University, Makkah, KSA, in 2009, and the M.Sc. degree in electrical engineering from the University of Colorado, CO, USA, in 2017. He recently received his Ph.D. degree in electrical and computer engineering from the Western Michigan University, MI, USA, in 2021. In 2009, he was an Electrical Engineer at Saudi Electricity Company, Saudi Arabia, where he worked on the Overhead power line (132/33kV) from 2009 to 2013. Dr. Alqarni is a member of IEEE.His research interests include power electronics and control engineering including fuzzy logic applications, and microprocessor/microcontroller embedded applications.

Name	**Dr. Saeed Al-Ghamdi**
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Dr. Saeed Al-Ghamdi joined the Department of Electrical Engineering, Faculty of Engineering, Al-Baha University, Al-Baha, KSA in 2010. He is currently working as the Dean of Graduate Studies at Al-Baha University. He was working as the Dean of Faculty of Engineering, Dean of Scientific Research and the Supervisor General of the General administration of projects, operation and maintenance, Al-Baha University. Dr. Al-Ghamdi graduated from the Electrical Engineering Department of King Abdulaziz University, KSA with B.Sc. in 1988. He graduated from the Electrical Engineering Department of King Abdulazez University, KSA with, M.Sc. in 1995. He moved to Manshester University in the UK and obtained his Ph.D. in Electrical Engineering in 2002. In 1432-1435 H, he worked as Vice Dean, Faculty of Engineering, Al-Baha University. Dr. Al-Ghamdi is member of many standing councils and committees at the university.

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Prof. Ashraf M. Aziz received the Ph.D. Degree in Electrical Engineering from Naval Postgraduate School, California, USA in 1999. From 1988 to 2011, he was with the Military Technical College, Cairo, Egypt, where he was working as a Professor and the Dean of Faculty Affairs (2007- 2010). He also was working as a professor and the Chief of the Communications Engineering Branch in the Electronics and Communications Engineering Department, College of Engineering and Technology, Arab Academy for Science, Technology, and Maritime Transport, Cairo Branch, Cairo, Egypt (2010-2012). He is currently working as a professor in the Electrical Engineering Department, Faculty of Engineering, Al-Baha University, Saudi Arabia (2013-present). He has been awarded the First-Class Medal of Sciences of the State President in 2017, the State Award for Scientific Excellence in Engineering Sciences with honor in 2014, the State Prize in Engineering Sciences with honor in 2008, and the First-Class President Medal of Long Service and Fine Model in 2008. His research interests include statistical signal processing and multi-sensor data fusion.

Name	**Dr. Omar Noureldeen**
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Dr. Omar Noureldeen is a professor at the department of electrical engineering, Faculty of Engineering, South Valley University, Egypt. He received his Ph.D. in electrical power and machines from the Faculty of Engineering, Cairo University in 2004. From 2004 to 2006, he has been assistant professor at the department of electrical engineering, Faculty of Energy Engineering, Aswan University. From 2007 to 2013, he has been assistant professor at the department of electrical engineering, Faculty of Engineering, South Valley University. From 2014 to 2019, he has been an associate professor at the department of electrical engineering, Faculty of Engineering, and vice-dean for postgraduate and research studies at the Faculty of Engineering, South Valley University. His

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fields of interest are Electrical power and machines, digital protection of power systems, and monitoring and diagnosis of power transformer insulation systems.

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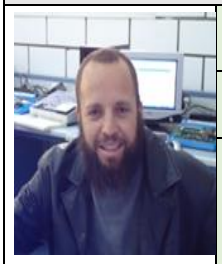
Dr. Ahmad F. Tazay was born in Jeddah, Saudi Arabia on January 1985. He received his Bachelor of Science Degree in electrical engineering from Umm Al-Qura University in 2007. He received his Master of Science and Ph. D. degrees from University of South Florida, USA in 2013 and 2018; respectively. He is currently working as an assistant professor in Electrical Engineering Department, Faculty of Engineering, Al-Baha University, Saudi Arabia. His research of interest includes integration of renewable energy resources, designing and implementation of power electronics and smart inverters, artificial intelligent and machine learning, and control of smart grid and micro-grid.



Name	**Dr. Salem ZERKAOUI**
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Dr. Salem ZERKAOUI was born in Algeria. He received his Ph. D degree in Electrical Engineering at Le Havre University (France), 2007. He got his Master's Degree in Electrical Engineering at Le Havre University (France), 2003. He completed his B.Sc. in telecommunication at the telecommunications institute of Oran (Algeria), 1999. From 2006 to 2008, he worked with the Le Havre University (France) as lecturer then as an assistant professor. In 2009, he was a Post-Doctor in MIS laboratory (Modeling, Information, and Systems) at Picardie Jules Verne University (France). From 2009 to now, he is working as an assistant professor then he has promoted associate professor

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degree in 2013 with the Faculty of Engineering, Al-Baha University, Saudi Arabia. His research interests include Power Converters, Renewable Energy, Control design for hybrid electrical energy systems, Adaptive and robust control (for nonlinear, SISO and MIMO systems), Observers for monitoring and diagnosis of nonlinear dynamical systems, Neural networks and Fuzzy Logic.

Name	**Dr. Saleh Alharbi**
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Dr. Saleh Alharbi received a B.Sc. degree in electrical engineering from Umm Al Qura University, Makkah, KSA, in 2008, and an M.Sc. degree in electrical engineering from the University of Colorado, CO, USA, in 2015. He recently received his Ph.D. degree in electrical and computer engineering from the University of Denver, CO, USA, in 2020. He is currently an Assistant professor in the Electrical Engineering Department, Faculty of Engineering, Al-Baha. His research interests include power electronics, renewable energy systems, energy conversion and storage systems, distributed power systems, smart grids, and microgrids.

Name	**Dr. Mohamed Mostafa**
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Office	**2203**

Dr. Mohamed Mostafa received a Ph.D. in Electronics and Communication Engineering from the Faculty of Engineering, Ain Shams University, Cairo, Egypt, in 2017, the M.Sc. degree in Electronics and Communications Engineering Dept. from the faculty of Engineering, Helwan University, Cairo, Egypt, in 2010. He received a B.Sc. degree (with first-class honors) in Electronics, Communications, and Computer Engineering Dept. from The Higher Institute of Engineering, El Shorouk Academy, Cairo, Egypt, in 2003. He joined the Electronics and Communications Engineering Department,

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Faculty of Engineering, Suez Canal University as an assistant professor in 2018. His research interests are in the field of Signal Processing, LTE systems, Massive MIMO systems, 5G communication technologies, and green communications.

Name	**Dr. Ahmed S. Shalaby.**
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Dr. Ahmed S. Shalaby received a Ph.D. degree in Electrical Engineering from Electronics and Communications, Al-Azhar University, Faculty of Engineering, Cairo, Egypt, 2015. From 2004 to 2019, he was with the Faculty of Engineering, Al-Azhar University, Cairo, Egypt, where he was working as a Teaching Assistant (2004- 2008). He also was working as a Senior Teaching assistant at the Electronics and Communications Engineering Department, Faculty of Engineering, Al-Azhar University, Cairo, Egypt (2008-2015). He also was working as an Assistant Professor at the Electronics and Communications Engineering Department, Faculty of Engineering, Al-Azhar University, Cairo, Egypt (2015-2019). He is currently working as an Assistant professor in the Electrical Engineering Department, Faculty of Engineering, Al-Baha

Name	**Dr. Salah Alharbi**
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Dr. Salah Alharbi received a B.Sc. degree in electrical engineering from Umm Al Qura University, Makkah, KSA, in 2008, and an M.Sc. degree in electrical engineering from the University of Colorado, CO, USA, in 2015. He received his Ph.D. degree in electrical and computer engineering from the University of Denver, CO, USA, in 2020. He is currently an Assistant professor in the Electrical Engineering Department, Faculty of Engineering, Al-Baha. His research interests include wide bandgap semiconductor devices, power electronics, renewable energy systems, hybrid and electric vehicle technology, and microgrids.

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Dr. Shawki A. Saad received a Ph.D. degree in Electrical Engineering from the Information Technology Institute, Faculty of Engineering, Ulm University, Ulm, Germany in 2007. From 2007 to 2011, he was with the Electrical Engineering Department, Faculty of Engineering, Al-Azhar University, Cairo, Egypt, where he was working as an assistant professor. He also was working as an assistant professor of Communications and Electronics at the Higher Institute of Engineering and Technology, 10th of Ramadan Egypt (2007 - 2011). He is currently working as an assistant professor in the Electrical Engineering Department, Faculty of Engineering, Al-Baha University, Saudi Arabia (2012-present). His research interests include space-time diversity, wireless channel modeling and estimation, multiuser communications, and the impacts of 5G communication systems on the environment.

Name	**Dr. Amr A. Youssef**
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Dr. Amr A. Youssef received a Ph.D. degree in Electrical Engineering from Benha University, Cairo, Egypt in Dec. 2014. My teaching experiences can be summarized as, from Dec. 2008 until Dec. 2011, I worked as an assistant lecturer in the electrical engineering department, Shoubra Faculty of Engineering, Benha University, Cairo, Egypt. From Dec. 2011 until Dec. 2014; I worked as a lecturer in the electrical engineering department, shoubra Faculty of Engineering, Benha University, Cairo, Egypt. From Dec. 2014 until Feb. 2020; I worked as an assistant professor in the electrical engineering department, shoubra Faculty of Engineering, Benha University, Cairo, Egypt. From 2015 until 2017, I worked as a part-time assistant Professor in Mechatronics Engineering Department, (10th Higher Technological Institute), HTI, Cairo, Egypt. From Jan. 2012 until 2017, I worked as a part-time instructor of "Electrical Distribution Diploma" in many companies in Egypt (Logic, GET, Cadres Makers, Egyptian Syndicate of Engineers in El-Kaloubyia, Toshiba El-Araby Group, Baseline Office). From Feb. 2020 until now, I am working as an assistant professor in the electrical engineering

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department, faculty of engineering, Al-BAHA university, K.S.A. His research interests include High Voltage Engineering, GIS, GIBD, insulating materials, Electric Field calculations, breakdown voltage, Renewable energy sources, and hybrid energy systems.

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Dr. Abdel-Raheem Farg Allah received a Ph.D. degree in Electrical Engineering from Donesk National Technical University. 2002, Ukraine, a master's degree from Electric power Network. Kharkov Institute of Municipal Engineering. Ukraine 1993 and B.sc in Electrical Engineering Kharkov Institute of Municipal 1992. Dr. Abdel-Raheem is now an Assistant Prof at the electrical engineering department, faculty of engineering, Al-Baha University, Al-Baha, Kingdom of Saudi Arabia.

Name	**Dr. Mishari M. Almalki**
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Dr. Mishari M. Almalki was born in November 17th, 1986. He received his B.S. in Electrical Engineering from King Abdulaziz University, KSA in 2009. Then, he received his M.S and his PhD in Electrical and Computer Engineering from Southern Illinois University - Carbondale, USA in December 2013 and May, 2018, respectively. Dr. Almalki worked as a Lecturer in Al-Baha University from 2010 to 2018. He is currently working as an Assistant professor in Al-Baha University since May 2018. He also worked as a research assistant in the University of Southern Illinois – Carbondale from 2014 to 2016. His research interests include power systems, electrical distribution, renewable energy, power electronics, smart grids, and smart protection of power systems.

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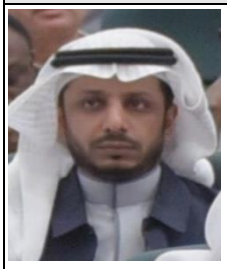

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Dr. Saeed Alamri is an Assistant Professor in the Department of Electrical Engineering at Al-Baha University. He earned a B.Sc. degree in Electronics and Electrical Engineering from King Saud University, Saudi Arabia, and received his M.Sc. degree from the University of Glasgow, UK. Then, he completed his Ph.D. at The University of Sheffield, UK. Dr. Alamri worked in King Abdulaziz City for Science and Technology (KACST), where he served as an Electronics Engineer at the Space Research Institute and an Electronic Warfare Systems Engineer at The Center of Electronics, Communication, and Photonics. In 2013, he moved to Al-Baha University as a Lecturer and held an Assistant Professor position since 2017. In addition, he has been a visiting researcher at the Queen Marry University of London, UK. Since 2017, Dr. Alamri has served as Acting Dean of the Scientific Research deanship, Acting Dean of University Development deanship, Director of the Science and Technology Unit. He served also as a member of many committees such as the university's principal board, Vision 2030 VRO committee, and the Institute of Studies and Consulting Services committee. His current research interests range across wearable and implanted antennas for biomedical applications, energy harvesting, and Artificial Intelligent. He has been awarded the Ambassador Award for Scientific Excellence in 2015, and the Academic and Scientific Excellence Award in 2013 and 2014.

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Dr. Mohammed Hatatah received the B.Sc degree in electrical engineering from King Abdulaziz University, Saudi Arabia, in 2007, the MBA degree from King Abdulaziz University, Saudi Arabia, in 2010, the M.Sc degree in power system from Pennsylvania State University, USA, in 2015, and the Ph.D. degree in power electronics from University of Pittsburgh, USA, in 2021. In 2005, he did a six-month internship at Saudi Aramco, Saudi Arabia, where he worked on distribution equipment design. From 2006 to 2011, he was an Electrical Planning Engineer at Saudi Electricity Company, Saudi Arabia, where he worked on the regional planning (110kV). Dr. Hatatah is a member of IEEE PELS and PES. His research interests include renewable energy, smart transformer, and control strategies of power converter.

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Dr. Saeed Saleh Alzahrani has a M.Eng.Sci. and a Ph.D. from the School of Information Technology and Electrical Engineering, the University of Queensland, Brisbane, Australia, in 2015 and 2022, respectively. His B.Sc. (Eng.) from King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia in 2009. Currently he is a lecturer at Electrical Engineering department within the faculty of Engineering at Al-Baha University Saudi Arabia. Prior to joining Al-Baha University, Saeed was a researcher at the Energy Research Institute (ERI) at King Abdul-Aziz City for Science and Technology (KACST), Riyadh, Saudi Arabia. Saeed also worked as an electrical maintenance engineer at Saline Water Conversion Corporation (SWCC) from 2009-2011. His main research interests are grid integration of renewable energy, power system stability studies, and battery energy storage.

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Dr. Turki Alkathiri is an assistant professor in Electrical Engineering at Al-Baha University with a focus on Ultrathin low-dimensional material science for advanced and future Applications. Proficiency in the creation and analysis of ultrathin 2D materials designed for applications in sensing and transistor technology. I have authored numerous scholarly articles that have undergone rigorous evaluation by experts in the field and have been published in reputable peer-reviewed academic journals. Furthermore, I have acquired valuable expertise in guiding and supporting undergraduate and graduate students through mentoring activities. Research interests include nanomaterials, sensing, and wideband gap semiconductors for their future application.

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Dr. Ibrahim Arfeen received the B.Sc. degree in Electronic engineering from University of Gezira 1, Wad madani Sudan, in 1999, M.Sc. degree in electrical engineering from the University of Gezira, Sudan, in 2005. and the Ph.D Electronic Engineering -Sudan Academy of Sciences 2011. Dr. Ibrahim is a member of Sudan Engineering Society. His research interests include microprocessors/ microcontrollers embedded system applications, programmable logic controllers (PLCs) , programmable logic devices (SPLD, CPLD and FPGA) and power electronics

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4.1 RESEARCH ACTIVITIES

With regard to the research aspect of the department, **(164)** scientific articles have been published in international refereed journals and conferences in the name of Al-Baha University and (4) research projects funded by the Deanship of Scientific Research at Al-Baha University by the teaching staff in the department.

1- Prof. Ashraf Mamdouh

A- Journal and Conference Papers

1. Ashraf M. Aziz, "Performance Analysis of Distributed Wireless Sensor Networks with Data Fusion", Proceedings of the 2024 IEEE Aerospace Conference, Big Sky, Montana, USA, March 2024, pp. 1-10.
2. Ashraf M. Aziz, Shawky A. Saad, Mohamed Mostafa, and Ahmed S. Shalaby, "A Measurement Correlation Approach for Multitarget Tracking in a Noisy Environment," Proceedings of the 2023 IEEE Aerospace Conference, Big Sky, Montana, USA, pp. 1-8, March 2023.
3. Ashraf M. Aziz, Shawky A. Saad, Ahmed S. Shalaby, and Mohamed Mostafa, "Performance Analysis of Full and Semi Signals Integration Approaches in Digital Telecommunication Systems," Al-Baha University Journal of Basic and Applied Sciences, BUJBAS, pp. 9 –14, 6 (2), July 2022.
4. Ashraf M. Aziz, "A Joint Possibilistic Data Association Technique for Tracking Multiple Targets in a Cluttered Environment ", Information Sciences, Vol. 280, Oct. 2014, pp. 239-260.
5. Ashraf M. Aziz, "A New Multiple Decisions Fusion Rule for Targets Detection in Multiple Sensors Distributed Detection Systems with Data Fusion", Information Fusion, Vol. 18, July 2014, pp. 175-186.
6. Ashraf M. Aziz, "A New Adaptive Decentralized Soft Decision Combining Rule for Distributed Sensor Systems with Data Fusion", Information Sciences, Vol. 256, Jan. 2014, pp. 197-210.
7. Ismail El-Badawy, Ashraf M. Aziz, Zaid Omar, M. E. Khedr, and M.B. Malarvili, "Correlation between different DNA period-3 signals: An analytical study for exons prediction", Proceedings of 9th Asia-Pacific Signal and Information Processing Association Annual Summit and Conference, APSIPA ASC, Kuala Lumpur, Malaysia, Dec. 2017, pp. 1123-1128.
8. Ashraf M. Aziz, Mohamed A. Abdel-Rahman, and Saeed A. Alghamdi, "A New Method for Multipath Clustering for Over-the-Horizon Radar", American Journal of Applied Sciences, Vol. 13, No. 10, Oct. 2016, pp. 1014-1026.
9. Ashraf M. Aziz, Mohamed A. Abdel-Rahman, and Saeed A. Alghamdi, "An Efficient Course Resolution Multiple-Receiver Approach for Reception of Slow Fading Signals in Digital Wireless Communication Systems", American Journal of Applied Sciences, Vol. 12, No. 8, Sept. 2015, pp. 549-559.

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10. Ashraf M. Aziz, “A New Multitarget Tracking Approach Based on a Non-Iterative Fuzzy Clustering Means Algorithm”, Proceedings of the 2015 IEEE Aerospace Conference, Big Sky, Montana, USA, March 2015, pp. 1-10.
11. Ashraf M. Aziz, “A New Perspective on the Choice of Fuzzy Membership Functions in Multitarget Tracking Systems”, Proceedings of the 2015 IEEE Aerospace Conference, Big Sky, Montana, USA, March 2015, pp. 1-8.
12. Ismail El-Badawy, Safa Gasser, Ashraf M. Aziz, M. E. Khedr, "On the use of Pseudo-EIIP mapping scheme for identifying exons locations in DNA sequences", 2015 IEEE International Conference on Signal and Image Processing Applications (ICSIPA), Kuala Lumpur, Malaysia, Oct. 2015, pp. 244-247.
13. El-Ansary H. M., Ashraf M. Aziz, Mabrouk G., and Ghouz H., "A Novel Channel Estimation Technique for Complexity Reduction of Least Minimum Mean Square Error", American Journal of Applied Sciences, Vol. 10, No. 10, Oct. 2013, pp. 1181-1190.
14. M. Atef Abbas, S. M. Gasser, Ashraf M. Aziz, and M. E. Khedr "A New Approach for PAPR Reduction of OFDM Signal Based on SLM and PTS," 3rd International Conference on e-Technologies and Networks for Development, ICeND 2014 , pp. 58-67, April 2014.
15. Ismail M. El-Badawy, Ashraf M. Aziz, Safa Gasser and Mohamed E. Khedr, “A New Multiple Classifiers Soft Decisions Fusion Approach for Exons Prediction in DNA Sequences,” 2013 IEEE International Conference on Signal and Image Processing Applications (ICSIPA), pp. 96 –101, Oct. 2013.
16. M. Atef Abbas, S. M. Gasser, and Ashraf M. Aziz, "A New Approach for PAPR Reduction of OFDM Signal Based on Signal Scrambling," International Journal of Applied Mathematics, Electronics, and Computers, Vol. 2, No. 4, Dec. 2104, pp. 59-63.
17. Ismail M. El-Badawy, Safa Gasser, Mohamed E. Khedr, and Ashraf M. Aziz, “Improved Time-domain Approaches for Locating Exons in DNA Using Zero-Phase Filtering,” 2014 IEEE Global Conference on Signal and Information Processing (GlobalSIB), pp. 1334 –1337, Dec. 2014.
18. Ashraf M. Aziz, “A Novel and Efficient Approach for Automatic Classification of Radar Emitter Signals”, Proceedings of the 2013 IEEE Aerospace Conference, Big Sky, Montana, USA, pp. 1-9, March 2013.
19. Ashraf M. Aziz, “A Least Squares Fusion Rule in Multiple Sensors Distributed Detection Systems”, Proceedings of the 2013 IEEE Aerospace Conference, Big Sky, Montana, USA, pp. 1-10, March 2013.

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2- Dr. Salem Zerkaoui

A- Journal and Conference Papers

1. Tazay, A.F.; Hazza GA, W.; Zerkaoui, S.; Alghamdi, S.A. Optimal Design and Techno-economic Analysis of a Hybrid Solar-wind Power Resource: A Case Study at Al baha University, KSA. *Int. J. Energy Prod. Manag.* **2022**, *7*, 13–34.
2. S., Badran S., "Stable adaptive neural control of a robot arm", Intelligent Control &Automation, (2012), doi: 10.4236/ica.2012.32016.
3. Zerkaoui S., "Online Hierarchical Controller for Hybrid Power System", ISRN Renewable Energy, (2012), doi:10.5402/2012/148563.
4. Zerkaoui S., "On-line Fuzzy sliding mode controller for Hybrid Power System", Journal of Computations & Modelling, Vol.3 (1), 2013, pp. 33-55.
5. Gamal Abdul Wareth Hazza, Salem Zerkaoui, Saeed Ahmed Al-Ghamdi," Economic Feasibility of Using SWHs instead of EWHs in Al-Baha Region of KSA", International Journal of Sustainable Energy and Environment, Vol. 4, No. 1, February 2016, pp. 1-13, ISSN: 2327- 0330
6. Gamal Hazza, Salem Zerkaoui, Saeed Al-Ghamdi," Dissemination of Solar Water Heater Use in Al-Baha Region ", ISBN-13: 973-3-659-89128-1, Lambert Academic Publishing, May 2016.

B- Research Funded by the Deanship of Scientific Reserach

- Research Project no. 1434-49, sponsored by Deanship of Scientific Research, Al-Baha University under the title," Dissemination of Solar Water Heater Use in AL-BAHA Region". (2014-2015).
- Research Project, sponsored by Deanship of Scientific Research, Al-Baha University under the title," Al-Mikhwa Green Energy Park Project". (2013).

3- Dr. Omar Noureldeen

A- Journal and Conference Papers

1- I. Hamdan, M. M. M. Youssef, and O. Noureldeen, "A review of intelligent control systems for grid tie doubly fed induction generator based wind farm," *SVU-Int. J. Eng. Sci. Appl.*, Vol. 4, no. 2, pp. 269–78, Dec. 2023. DOI: 10.21608/svusrc.2023.215683.1132.
2- I Hamdan, Marwa MM Youssef, Omar Noureldeen " A Proposed Supercapacitor Integrated with an Active Power Filter for Improving the Performance of a Wind Generation System under Nonlinear Unbalanced Loading and Faults.
3- I. Hamdan, Marwa M. M. Youssef, and O. Noureldeen, "A Proposed Supercapacitor Integrated with an Active Power Filter for Improving the Performance of a Wind Generation System under Nonlinear Unbalanced Loading and Faults," Journal of Electrical and Computer Engineering, vol. 2023, p. 17, 2023., https://doi.org/10.1155/2023/2863528.
4- I. Hamdan, Marwa M. M. Youssef, and O. Noureldeen, "Influence of interval type-2 fuzzy control approach for a grid-interconnected doubly-fed induction generator driven by wind

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energy turbines in variable-speed system," SN Applied Sciences, vol. 5, p. 25, 2023. https://doi.org/10.1007/s42452-022-05242-2.

5-] I. Hamdan, Amira Maghraby, , et al.Omar Noureldeen, "Random search optimization algorithm based control of supercapacitor integrated with solar photovoltaic system under climate conditions", Int. J. Renew. Energy Resour. 12 (2) (2022) 611–622.
6- I. Hamdan, A. Maghraby and O. Noureldeen, "Evaluation of Supercapacitor Control Techniques for 50 MW Benban Solar Park Plant with Grid-Connection During Disturbance," 2021 22nd International Middle East Power Systems Conference (MEPCON), Assiut, Egypt, 2021, pp. 265-272, doi: 10.1109/MEPCON50283.2021.9686255.
7- I. Hamdan, M. M. M. Youssef and O. Noureldeen, "Design of Fuzzy Coordinated PI Controller for Supercapacitor in Large Scale Wind Farm," *2021 22nd International Middle East Power Systems Conference (MEPCON)*, Assiut, Egypt, 2021, pp. 416-423, doi: 10.1109/MEPCON50283.2021.9686248.
8- AlGhamdi, S., et al. "Development and application of fuzzy proportional-integral control scheme in pitch angle compensation loop for wind turbines." Machines 9.7 (2021): 135.

9- A. F. Tazay, A. M. A. Ibrahim, O. Noureldeen and I. Hamdan, "Modeling, Control, and Performance Evaluation of Grid-Tied Hybrid PV/Wind Power Generation System: Case Study of Gabel El-Zeit Region, Egypt," in IEEE Access, vol. 8, pp. 96528-96542, 2020, doi: 10.1109/ACCESS.2020.2993919.

10- Tazay, Ahmad F., et al. "Modeling, control, and performance evaluation of grid-tied hybrid PV/wind power generation system: Case study of Gabel El-Zeit region, Egypt." IEEE Access 8 (2020): 96528-96542.

4- Dr. Saeed Alamri

A- Journal and Conference Papers

1- Firas.A. Turkey, Salmia Beddu, Suhair.K. Al-Hubboubi, Hidayah Bte Basri, Lariyah Mohd Sidek, Ali Najah Ahmed," Recycled foam concrete masonry and porcelanite rocks-based lightweight geo-polymer concrete at elevated temperatures", Alexandria Engineering Journal Volume105,2024,Pages171-180,ISSN 1110-0168,https://doi.org/10.1016/j.aej.2024.06.043.
2- Md. Mhedi Hasan, Mohammad Tariqul Islam, Touhidul Alam, Phumin Kirawanich, Saeed Alamri, Ahmed S. Alshammari,Metamaterial loaded miniaturized extendable MIMO antenna with enhanced bandwidth, gain and isolation for 5G sub-6 GHz wireless communication systems,Ain Shams Engineering Journal,2024,103058,ISSN 2090-4479,https://doi.org/10.1016/j.asej.2024.103058.
3- Md. Golam Rabbani, Ahasanul Hoque, Mohammad Tariqul Islam, Saeed Alamri, Phumin Kirawanich, Saleh Albadran, Mohamed S. Soliman,"Characterization and synthesis of

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MnxCo(0.90−x)Ni0.10Fe2O4 based flexible DNG metamaterial with EMI shielding and sensing application",Optics & Laser Technology,Volume 176,2024,110911,ISSN 0030-3992,https://doi.org/10.1016/j.optlastec.2024.110911.

4- Md. Zikrul Bari Chowdhury, Mohammad Tariqul Islam, Mohamed Ouda, Mohamed S. Soliman, Saeed Alamri, Md. Samsuzzaman,"Design of an Omega Phi-shaped Tri band metamaterial absorber with sensing application",Engineering Science and Technology, an International Journal,Volume 56,2024,101777,ISSN 2215-0986,https://doi.org/10.1016/j.jestch.2024.101777.
5- Apurba Ray Chowdhury, Saif Hannan, Mohammad Tariqul Islam, Saeed Alamri, Ahmed S. Alshammari, Mohamed S. Soliman,"Maze-enclosed quad symmetric kite shaped SRR based metamaterial absorber for doppler navigation aids and earth exploration satellite remote sensing services",Alexandria Engineering Journal,Volume 100,2024,Pages 357-368,ISSN 1110-0168,https://doi.org/10.1016/j.aej.2024.05.034.
6- Najeeb Ullah, Md. Shabiul Islam, Ahasanul Hoque, Phumin Kirawanich, Saeed Alamri, Haitham Alsaif, Mohammad Tariqul Islam,"Compact dual-band metamaterial absorber: Enhancing electromagnetic energy harvesting with polarization-insensitive and wide-angle capabilities",Optics&LaserTechnology,Volume175,2024,110829,ISSN00303992,https://doi.org/10.1016/j.optlastec.2024.110829.
7- Abu Hanif, Mohammad Lutful Hakim, Touhidul Alam, Badariah Bais, Saeed Alamri, Ayed M. Alrashdi, Mohamed S. Soliman, Mohammad Tariqul Islam,"Highly sensitive miniaturized labyrinth shape circular split ring resonator (LC-SRR) based microwave sensor for low permittivity characterization applications",Engineering Science and Technology, an International Journal,Volume 53,2024,101687,ISSN 2215-0986,https://doi.org/10.1016/j.jestch.2024.101687.
8- Ahmad Musa, Mohammad Lutful Hakim, Touhidul Alam, Mohammad Tariqul Islam, Saeed Alamri, Ahmed S. Alshammari, Mohamed S. Soliman,"Permeability negative split square resonator for solid materials dielectric constant and aqueous solution pH sensing applications",Sensors and Actuators A: Physical,Volume 369,2024,115107,ISSN 0924-4247,https://doi.org/10.1016/j.sna.2024.115107.
9- Razali, N.F.M., Sahar, N.M., Hoque, A. *et al.* Compact triple decagon split ring resonator metamaterial for liquid sensing applications. *Opt Quant Electron* **56**, 874 (2024). https://doi.org/10.1007/s11082-024-06811-y
10- Hasan, M. S. et al. Double elliptical resonator based quad-band incident angle and polarization angle insensitive metamaterial absorber for wireless applications. Opt. Laser Technol. 171, 110334 (2024).
11- 7M. G. Rabbani, M. T. Islam, Md. Moniruzzaman, S. Alamri, A. Al. M. Rahman, A. M. Moubark, Md. S. Islam, and M. S. Soliman, “Dumbbell shaped structure loaded modified circular ring resonator based perfect metamaterial absorber for S, X and Ku band microwave sensing applications,” Sci. Rep. 14(1), 5588 (2024).
12- M. S. Soliman and S. Alamri, "A Compact Frequency Reconfigurable Elliptic Antenna with Tunable UWB/Band-pass/Band-stop Characteristics," 2020 International Workshop on Antenna Technology (iWAT), Bucharest, Romania, 2020, pp. 1-4.
13- Alamri, Saeed, Richard Langley, and Ahmed AlAmoudi. "Gain Enhancement of Implanted Antennas Using Lens and Parasitic Ring." Electronics Letters, 2016.

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14- Abukharis, Salim, Jafar A. Alzubi, Omar A. Alzubi, Saeed Alamri, and Tim O'Farrell. "Packet Error Rate Performance of IEEE802. 11g under Bluetooth Interface." Research Journal of Applied Sciences, Engineering and Technology,1602.05556, 2015
15- Alamri, Saeed, Richard J. Langley, and Ahmed O. AlAmoudi. "Gain Enhancement of Implanted Antenna for Medical Applications." In 2015 International Conference on Electromagnetics in Advanced Applications. (ICEAA). September 7-11, 2015. Torino, Italy.
16- Alamri, Saeed, Richard J. Langley, and Ahmed O. AlAmoudi. "Compact Dual-Band Implanted Antenna for Wireless Communication" - 2014 8th European Conference on Antennas and Propagation (EuCAP), The Hague, Netherlands, 7-11 April 2014.
17- Almari, S, R. J. Langley and A. O. AlAmoudi, "Novel compact dual-band implanted antenna," 2014 Loughborough Antennas and Propagation Conference (LAPC), Loughborough, 2014, pp. 333-335, doi: 10.1109/LAPC.2014.6996390.
18- Alamri, Saeed, Richard J. Langley, and Ahmed O. AlAmoudi. "Improved performance of 2.45 GHz implanted patch antenna for wireless communication." In Antennas and Propagation Conference (LAPC), 2013 Loughborough, pp. 27-30. IEEE, 2013.
19- Zhu, Shaozhen, Alamri, Saeed, O. AlAmoudj, and R. J. Langley. "Implanted antenna efficiency improvement." 2013 7th European Conference on Antennas and Propagation (EuCAP).

B- **Research Funded by the Deanship of Scientific Reserach**

1. Prediction of clinical severity of COVID19 patients.

5- Dr. Ahmad Tazay

A- Journal and Conference Papers

I. Journal(s)

[1] A. Chantoufi *et al.*, "Direct Torque Control-Based Backstepping Speed Controller of Doubly Fed Induction Motors in Electric Vehicles: Experimental Validation," in *IEEE Access*, vol. 12, pp. 139758-139772, 2024, doi: 10.1109/ACCESS.2024.3462821.

[2] Tangi S, Gaonkar DN, Nuvvula RSS, Kumar PP, Colak I, **Tazay AF**, et al. (2024) Smart distribution network voltage estimation using PMU technology considering zero injection constraints. PLoS ONE 19(3): e0293616. https://doi.org/10.1371/journal.pone.0293616.

[3] Chebaani M, Mahmoud MM, **Tazay AF**, Mosaad MI, Nouraldin NA (2023) Extended Kalman Filter design for sensorless sliding mode predictive control of induction motors without weighting factor: An experimental investigation. PLoS ONE 18(11): e0293278. https://doi.org/10.1371/journal.pone.0293278.

[4] **A. Tazy, M**. M. Samy and M. A. Ghalib, "Enhancement and Control of Reactive Power Sharing Utilizing Circulating Current in AC Microgrids," *2022 23rd International Middle East Power Systems Conference (MEPCON)*, Cairo, Egypt, 2022, pp. 1-5, doi: 10.1109/MEPCON55441.2022.10021751.

[5] **Tazay, A.F**.; Hazza GA, W.; Zerkaoui, S.; Alghamdi, S.A. Optimal Design and Techno-economic Analysis of a Hybrid Solar-wind Power Resource: A Case Study at Al baha University, KSA. Int. J. Energy Prod. Manag. 2022, 7, 13–34.

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[6] **Ahmad F. Tazay** and Zuhair Alqarni. Design and Control of Hybrid Photovoltaic/Fuel Cell System to Charge Electric Vehicle's Battery. Al-Baha University Journal of Basic and Applied Sciences (BUJBAS) .Volume 7, Issue 1, January 2023.

[7] **Tazay, Ahmad F.,** et al. "Optimal design and techno-economic analysis of a hybrid solar-wind power resource: a case study at Al Baha University, KSA." *International Journal of Energy Production and Management* 7.1 (2022): 13-34. (**IF** = 0.2, Scopus, **Q4**).

[8] Tazay, Ahmad F. "Design and Implementation of Solar Powered Electric Vehicle for On-Campus University Applications." INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH & TECHNOLOGY (IJERT) Volume 10, Issue 10 (October 2021).

[9] **Tazay, Ahmad F**., et al. "Modeling, Control, and Performance Evaluation of Grid-Tied Hybrid PV/Wind Power Generation System: Case Study of Gabel El-Zeit Region, Egypt." *IEEE Access* (2020). (**IF** = 3.745, Scopus, **Q1**).

[10] **Tazay, Ahmad**, M.M. Samy, and Shimaa Barakat. "A Techno-Economic Feasibility Analysis of an Autonomous Hybrid Renewable Energy Sources for University Building at Saudi Arabia". *Journal of Electrical Engineering & Technology, Springer*. (**IF** = 0.736, Scopus, **Q3**).

[11] **Tazay, Ahmad**. "Techno-Economic Feasibility Analysis of a Hybrid Renewable Energy Supply Options for Grid-connected Buildings: Case Study of Southern Universities at Saudi Arabia." *Open Engineering, De Gruyter* (2020). (**IF** = 0.699, Scopus, **Q3**).

[12] **Tazay, Ahmad**, and Zhixin Miao. "Control of a three-phase hybrid converter for a PV charging station." *IEEE Transactions on Energy Conversion* 33.3 (2018): 1002-1014. (**IF** = 2.1, Scopus, **Q1**).

II. Conference(s)

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9-Dr. Mohammed Hatatah

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10- Dr. shawki saad

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16-Dr. Saeed S Alzahrani

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17-Dr. Amr Ameen Youssef (Amr A. Youssef)

A- Journal and Conference Papers

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5. Scholarships

In the electrical engineering department, there are 4 teaching staff members who have a scholarship as well as they are pursuing postgraduate studies, either master's or Ph.D. degrees in different countries, such as USA, UK, and Australia. Table (5) highlights the teaching staff members who have a scholarship.

No.	Name	Degree	Start of study	Country	University	General specialty	Subspecialty	Expected graduation year
1	Abdullah Al-Mohsen	Ph.D.	2022	USA	North Carolina State University	Electrical Engineering	Electric Machines	2026
2	Omar Al-Saadi	Ph.D.	2019	UK	Manchester University	Electrical Engineering	Electric Power	2024
3	Misheal Al-Nafieiu	Ph.D.	2021	USA	Florida Institute of Technology	Electrical Engineering	Communication	2025
4	Mohammed Al-Zahrani	Ph.D.	2022	USA	Purdue University	Electrical Engineering	Electric Power	2026

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6. Teaching Programs

It began with curriculams accomapanied with the study program (Umm Al-Qura plan), in which the students of group 1428 and 1429 AH, as well as bridging students, studied a total of 164 credit hours. The plan was divided into ten semesters, after passing all credit hours, the student receives the Bachelor Degree of Electrical Engineering.

The 1430 plan courses were then developed and approved by the Electrical Engineering Department, and students from batches 1430, 1431, and 1432 AH enrolled in them. This plan's courses are spread out over ten semesters, totaling 162 credit hours. The first and second levels (Foundation Year) are shared by all engineering departments in this plan.
The 1433 plan was then developed for the students of class 1433 in the department and beyond from the batches that joined the department, and it was approved by all competent councils, beginning with the department council and continuing until the Minister of Higher Education approved the minutes of the university council in its third session for the academic year 1434/1435 on 06/21/1435. A student must complete 162 credit hours to earn a Bachelor of Science in Engineering degree under this plan.

The 1433 plan's courses were improved and adjusted in 1438 to form the 1438 plan, in which students enter the department directly from their first year of college. This plan requires the student to complete ten semesters and 162 credit hours in order to graduate.

In the department, there are currently two study plans. Plan 1433, which includes 162 credit hours of study time for difficult students. Since the beginning of the academic year 1433/1434, students enrolled in this plan have been studying.

In the academic year 1444 H, the study plan was modified to three semesters per year as a result of the amendment of university requirements and the requirements of NCAAA to modify the educational plans under the name (Plan 1444-1445 H). The students were required to study 200 credits hours. This is the currently approved plan.

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Table (6) Study Programs offered by the Department

#	Study plan	Credit hours	Number of classes	Program	Number of students at the beginning of the academic year 1445
1	(Plan 1433)	163	10	Bachelor of Electrical Engineering	7
2	(Plan 1438)	162	10	Bachelor of Electrical Engineering	262
3	(Plan 1445)	200	15	Bachelor of Electrical Engineering	50
4	Electrical Engineerig Diploma	78	6	Diploma in Electrical Engineering Techmology	31
5	Master's thesis	33	4	Masters in Electrical Engineering	12
	Master Project	36			
Total number of students in the academic year 1445		**362 students**			

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اسم البرنامج باللغة العربية	بكالوريوس الهندسة الهندسة الكهربائية
اسم البرنامج باللغة الإنجليزية	Bachelor of Electrical Engineering
اجمالي عدد الساعات	200
اجمالي عدد المقررات	64
لغة الدراسة	اللغة الإنجليزية

Level المستوى	1				Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
Course Code	Course No.	Course Title (English)	اسم المقرر باللغة الإنجليزية	Course Title (Arabic)	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
رمز المقرر	رقم المقرر			اسم المقرر باللغة العربية									
ISLM	1003	Quran Kareem		التلاوة والهدايات القرآنية	2	2	0	0	-	-	-		
CS	1002			اساسيات التحول الرقمي	2	2	0	0	-	-	-		
ENGL	1001	English language 1		اللغة الإنجليزية ١	0	16	0	0	-	-	-		
PHYS	1003	General Physics		فيزياء عامة	4	2	2	2	-	-	-		
MATH	1004	Calculus 1		تفاضل وتكامل ١	4	3	0	2	-	-	-		
No. of Courses		5		اجمالي الوحدات	12	25	2	4	-	-	-		

Level المستوى	2				Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
Course Code	Course No.	Course Title (English)	اسم المقرر باللغة الإنجليزية	Course Title (Arabic)	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
رمز المقرر	رقم المقرر			اسم المقرر باللغة العربية									
ARAB	1001	Language Skills		المهارات اللغوية	2	2	0	0	-	-	-		
ISLM	1001	Islamic Culture 1		الثقافة الإسلامية ١	2	2	0	0	-	-	-		
ENGL	1002	English language 2		اللغة الإنجليزية ٢	3	8	0	0	-	ELC1002	ENGL1001	English language 1	اللغة الإنجليزية ١
MATH	1006	Calculus 2		تفاضل وتكامل ٢	4	3	0	2	-	CALC1001	MATH1004	Calculus 1	تفاضل وتكامل ١
CHEM	1004	General Chemistry		كيمياء عامة	4	2	2	2	-	-	-		
No. of Courses		5		اجمالي الوحدات	15	17	2	4	-	-	-		

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Level المستوى	3											
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
ISLM	1002	Islamic Culture 2	الثقافة الإسلامية ٢	2	2	0	0	-	-	-		
HIST	1001	History of Saudi Arabia	تاريخ المملكة العربية السعودية	2	2	0	0	-	-	-		
ENGL	1003	English language 3	اللغة الإنجليزية ٣	3	8	0	0	-	ENGL1002	ENGL1002	English language 2	اللغة الإنجليزية ٢
EENG	1002	Material Properties	خواص المواد	2	2	0	0	-	PHYS10001	PHYS1003	General Physics	فيزياء عامة
MENG	1003	Engineering Drawing	رسم هندسي	2	-	4	0	-	-	-		
No. of Courses	5	إجمالي الوحدات		11	14	4	0	-	-	-		

Level المستوى	4											
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1255	Fundamental of Electrical Engineering	أساسيات الهندسة الكهربائية	4	2	2	2	-	PHYS10001 &CLC1001	MATH1004 and PHYS1003	Calculus 1 & General Physics	تفاضل وتكامل ١ & فيزياء عامة
EENG	1256	Digital Logic Circuits Design	تصميم الدوائر المنطقية الرقمية	4	2	2	2	-	-	-		
ENG	1256	Applied Algebra	الجبر التطبيقي	4	3	0	2	-	CLC1002	MATH1006	Calculus 2	تفاضل وتكامل ٢
CENG	1003	Computer Programming	برمجة الحاسب الآلي	4	2	2	2	-	-	-		
No. of Courses	4	إجمالي الوحدات		16	9	6	8	-	-	-		

Level المستوى	5											
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1257	Electrical Circuits Analysis 1	تحليل دوائر كهربائية ١	4	2	2	2	-	EENG1001	EENG1255	Fundamental of Electrical Engineering	أساسيات الهندسة الكهربائية
EENG	1258	Electromagnetic 1	كهرومغناطيسية ١	3	2	0	2	-	EENG1001	EENG1255	Fundamental of Electrical Engineering	أساسيات الهندسة الكهربائية
ENG	1257	Applied Differential Equations	المعادلات التفاضلية التطبيقية	4	3	0	2	-	ENG1250	MATH1006	Calculus 2	تفاضل وتكامل ٢
MENG	1258	Probability and Statistics	الاحتمالات والاحصاء	3	2	0	2	-	CALC1001	MATH1004	Calculus 1	تفاضل وتكامل ١
No. of Courses	4	إجمالي الوحدات		14	9	2	8	-	-	-		

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Level المستوى	6											
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1259	Electronic Devices	نبائط الكترونية	4	2	2	2	-	EENG1250	EENG1256	Digital Logic Circuits Design	تصميم الدوائر المنطقية الرقمية
EENG	1260	Electric Circuit Analysis 2	تحليل دوائر كهربائية ٢	4	2	2	2	-	EENG1250	EENG1257	Electric Circuit Analysis 1	تحليل دوائر كهربائية ١
ENG	1258	Applied Vactor Calculus	المتجهات التفاضلية التطبيقية	3	2	0	2	-	ENG1250	ENG1256	Applied Algebra	الجبر التطبيقي
EENG	1261	Electromagnetic 2	كهرومغناطيسية ٢	3	2	0	2	-	EENG1252	EENG1258	Electromagnetic 1	كهرومغناطيسية ١
No. of Courses		4	إجمالي الوحدات	14	8	4	8	-	-	-		

Level المستوى	7											
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1514	Computer Applications in Electrical Engineering	تطبيقات الحاسب في الهندسة الكهربائية	3	2	2	0	-	CENG1001	CENG1003	Computer Programming	برمجة الحاسب الآلي
EENG	1515	Electrical Measurements and Instrumentation	القياسات والأجهزة الكهربائية	3	2	2	0	-	EENG1250	EENG1257	Electrical Circuits Analysis 1	تحليل دوائر كهربائية ١
EENG	1516	Electrical Machines 1	آلات كهربائية ١	4	2	2	2	-	EENG1252	EENG1258	Electromagnetic 1	كهرومغناطيسية ١
MENG	1005	Engineering Ecnomics	إقتصاد هندسي	2	2	0	0	-	-	-		
No. of Courses		4	إجمالي الوحدات	12	8	6	2	-	-	-		

Level المستوى	8											
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1517	Signals and Systems Analysis	تحليل أنظمة واشارات	3	2	0	2	-	ENG1252	ENG1257	Electrical Circuits Analysis 1	تحليل دوائر كهربائية ١
EENG	1518	Electrical Power System Analysis 1	تحليل نظم القوى الكهربائية ١	4	2	2	2	-	EENG1251	EENG1260	Electric Circuit Analysis 2	تحليل دوائر كهربائية ٢
EENG	1519	Electrical Machines 2	آلات كهربائية ٢	4	2	2	2	-	EENG1505	EENG1516	Electrical Machines 1	آلات كهربائية ١
EENG	1520	Numerical Analysis	تحليل عددي	3	2	0	2	-	ENG1252 and CENG1250	ENG1257	Applied Differential Equations	المعادلات التفاضلية التطبيقية
No. of Courses		4	إجمالي الوحدات	14	8	4	8	-	-	-		

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Level المستوى		9										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغه الإنجليزية	اسم المقرر باللغه العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغه الإنجليزية	اسم المتطلب باللغه العربية
EENG	1521	Engineering Report Writing	كتابة التقارير الهندسية	2	2	0	0	-		-	-	-
EENG	1522	Electrical Power System Analysis 2	تحليل نظم القوى الكهربائية ٢	4	2	2	2	-	EENG1508	EENG1518	Electrical Power System Analysis 1	تحليل نظم القوى الكهربائية ١
EENG	1523	Electronic Circuits	دوائر الكترونية	4	2	2	2	-	EENG1502	EENG1259	Electronic Devices	نبائط الكترونية
CIVE	1533	Project Management	إدارة المشاريع	3	2	0	2	-	-	MENG1005	Engineering Ecnomics	إقتصاد هندسي
CIVE	1006	Basics of Statics	مبادئ استاتيكا	2	2	0	0	-	-	-	-	-
No. of Courses		5	إجمالي الوحدات	15	10	4	6	-	-	-		

Level المستوى		10										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغه الإنجليزية	اسم المقرر باللغه العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغه الإنجليزية	اسم المتطلب باللغه العربية
EENG	1774	Digital Electronics	الالكترونيات الرقمية	4	2	2	2	-	EENG1506	EENG1523	Electronic Circuits	دوائر الكترونية
EENG	1775	Automatic Control	التحكم الآلي	4	2	2	2	-	EENG1504	ENG1257	Applied Differential Equations	المعادلات التفاضلية التطبيقية
EENG	1776	Communication Theory	نظرية الاتصالات	4	2	2	2	-	EENG1504 and EENG1250	EENG1517	Signals and Systems Analysis	تحليل أنظمة واشارات
MENG	1290	Introduction to Dynamics	مقدمة في الديناميكا	2	2	0	0	-	-	-	-	-
No. of Courses		4	إجمالي الوحدات	14	8	6	6	-	-	-		

Level المستوى		11										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغه الإنجليزية	اسم المقرر باللغه العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغه الإنجليزية	اسم المتطلب باللغه العربية
ENG	1525	Professional Ethics	اخلاقيات المهنة	2	2	0	0	-		-	-	-
EENG	1778	Microprocessors	وحدات التشغيل الدقيقة	4	3	2	0	-	EENG1253	EENG1256	Digital Logic Circuits Design	تصميم الدوائر المنطقية الرقمية
EENG	1779	Digital Communication	الاتصالات الرقمية	4	2	2	2	-	EENG1507	EENG1776	Communication Theory	نظرية الاتصالات
MENG	1291	Fundamentals of Thermodynamics	أساسيات ديناميكا حرارية	2	2	0	0	-		PHYS1003	General Physics	فيزياء عامة
No. of Courses		4	إجمالي الوحدات	12	9	4	2	-	-	-		

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Level المستوى		12										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغه الإنجليزية	اسم المقرر باللغه العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغه الإنجليزية	اسم المتطلب باللغه العربية
EENG	1780	Power System Operation and Control	التحكم والتشغيل لنظم القوى الكهربائية	3	2	0	2	-	EENG1511	EENG1522	Electrical Power System Analysis 2	تحليل نظم القوى الكهربائية ٢
EENG	1781	Power Electronics	الكترونيات القوى	4	2	2	2	-	EENG1502	EENG1523	Electronic Circuits	دوائر الكترونية
EENG	1782	Communication Systems	أنظمة الاتصالات	3	2	2	0	-	EENG1507	EENG1779	Digital Communication	الاتصالات الرقمية
EENG	1783	Renewable Energy	طاقة متجددة	4	3	0	2	-	EENG1506	EENG1522	Electrical Power System Analysis 2	تحليل نظم القوى الكهربائية ٢
No. of Courses		4	إجمالي الوحدات	14	9	4	6	-	-	-		

تدريب ميداني		تدريب ميداني										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغه الإنجليزية	اسم المقرر باللغه العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغه الإنجليزية	اسم المتطلب باللغه العربية
SINT1751	1	Field Training	تدريب ميداني	2	0	35	-	-	Eight semesters passed without counting the apology and postponement, in addition to passing 100 credit hours	Passing 12 levels or passing 130 credit hours	Passing 12 levels or passing 130 credit hours	اجتاز ١٢ مستوى او ١٣٠ ساعاة معتمدة
No. of Courses		1	إجمالي الوحدات	2	0	35						

Level المستوى		13										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغه الإنجليزية	اسم المقرر باللغه العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغه الإنجليزية	اسم المتطلب باللغه العربية
EENG	1784	Digital Control Systems	نظم التحكم الرقمي	4	3	2	0	-	EENG1509	EENG1775	Automatic Control	التحكم الآلي
EENG	1785	Graduation Project Part 1	مشروع التخرج - الجزء الأول	3	3	0	0	-	passing 123 credit hours	Passing 130 credit hours	Passing 130 credit hours	اجتاز ١٣٠ ساعاة معتمدة
		Elective Course 1	مقرر اختياري ١	3	2	2	0	-	-	-	-	-
		Elective Course 2	مقرر اختياري ٢	3	2	2	0	-	-	-	-	-
No. of Courses		4	إجمالي الوحدات	13	10	6	0	-	-	-		

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Level المستوى		14										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1787	Energy Efficiency	كفاءة الطاقة	3	2	0	2	-		EENG1518	Electrical Power System Analysis 1	تحليل نظم القوى الكهربائية ١
EENG	1788	High Voltage Engineering	هندسة الجهد العالي	3	2	0	2	-	EENG1511 and EENG1505	EENG1258	Electromagnetic 1	كهرومغناطيسية ١
EENG	1786	Graduation Project Part 2	مشروع التخرج - الجزء الثاني	3	3	0	0	-	EENG1753	EENG1785	Graduation Project Part 1	مشروع التخرج - الجزء الأول
		Elective Course 3	مقرر اختياري ٣	3	2	2	0	-	-	-	-	-
No. of Courses		4	إجمالي الوحدات	12	9	2	4	-	-	-		

Level المستوى		15										
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1789	Power System Protection	حماية نظم القوى	4	2	2	2	-	EENG1511	EENG1522	Electrical Power System Analysis 2	تحليل نظم القوى الكهربائية ٢
EENG	1790	Embedded Systems	الأنظمة المدمجة	3	2	2	0	-	CENG1250	EENG1514	Computer Applications in Electrical Engineering	تطبيقات الحاسب في الهندسة الكهربائية
		Elective Course 4	مقرر اختياري ٤	3	2	2	0	-	-	-	-	-
No. of Courses		3	إجمالي الوحدات	10	6	6	2	-	-	-		

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Elective Coueses		المقررات الاختيارية	مقررات التدريب التعاوني (اختياري) في حالة اختيارها يتم تسجيلها معا ولا يسجل معها مقررات أخرى في نفس الفصل الدراسي ويفضل تسجيلها الفصل التالي للتدريب الميداني									
Course Code	Course No.	Course Title (English)	Course Title (Arabic)	Credit Units	Lecture	Practical	Tutorial	Clinical	Previous Pre-requisite(s)	New Pre-requisite(s)	Pre-requisite Title (English)	Pre-requisite Title (arabic)
رمز المقرر	رقم المقرر	اسم المقرر باللغة الإنجليزية	اسم المقرر باللغة العربية	الوحدات المعتمدة	نظري	عملي	تمارين	سريري	المتطلبات السابقة	المتطلبات الجديدة	اسم المتطلب باللغة الإنجليزية	اسم المتطلب باللغة العربية
EENG	1791	Electrical Power Transmission and Distribution Systems	نظم نقل وتوزيع القوى الكهربائية	3	2	2	0	-	EENG1252 and EENG1511	EENG1522	Electrical Power System Analysis 2	تحليل نظم القوى الكهربائية ٢
EENG	1792	Electric Drive Systems	نظم التحريك الكهربائي	3	2	2	0	-	EENG1751 and EENG1505	EENG1516	Electrical Machines 1	آلات كهربائية ١
EENG	1793	Advanced Power Electronics	الكترونيات القوى المتقدمة	3	2	2	0	-		EENG1781	Power Electronics	الكترونيات القوى
EENG	1794	Microgrids	الشبكات الدقيقة	3	2	2	0	-		EENG1522	Electrical Power System Analysis 2	تحليل نظم القوى الكهربائية ٢
EENG	1795	Wind and Solar Energy Systems	نظم طاقة الرياح والطاقة الشمسية	3	2	2	0	-		EENG1783	Renewable Energy	طاقة متجددة
EENG	1796	Special Topics in Power Systems	موضوعات خاصة في نظم القوى الكهربائية	3	2	2	0	-		EENG1522	Electrical Power System Analysis 2	تحليل نظم القوى الكهربائية ٢
EENG	1797	Advanced Control System	نظم تحكم متقدم	3	2	2	0	-		EENG1784	Digital Control Systems	نظم التحكم الرقمي
EENG	1798	Artificial Intelegance	الذكاء الاصطناعي	3	2	2	0	-	CENG1250	EENG1514	Computer Applications in Electrical Engineering	تطبيقات الحاسب في الهندسة الكهربائية
EENG	1799	Special Topics in Electrical Machines	موضوعات خاصة في الآلات الكهربائية	3	2	2	0	-		EENG1519	Electrical Machines 2	آلات كهربائية ٢
EENG	1800	Statistical Communication	الاتصالات الإحصائية	3	2	2	0	-	EENG1512	EENG1782	Communication Systems	أنظمة الاتصالات
EENG	1801	Mobile Communication	الاتصالات المتحركة	3	2	2	0	-	EENG1512	EENG1782	Communication Systems	أنظمة الاتصالات
EENG	1802	Integrated Circuits	الدوائر المتكاملة	3	2	2	0	-	EENG1506	EENG1523	Electronic Circuits	دوائر الكترونية
EENG	1803	Digital Signal Processing	معالجة الإشارات الرقمية	3	2	2	0	-	EENG1504	EENG1517	Signals and Systems Analysis	تحليل أنظمة وإشارات
EENG	1804	Data Communication	اتصالات البيانات	3	2	2	0	-	EENG1512	EENG1782	Communication Systems	أنظمة الاتصالات
EENG	1805	Antena and Propagation	هوائيات وانتشار موجات	3	2	2	0	-	EENG1501	EENG1201	Electromagnetic 2	كهرومغناطيسية ٢
EENG	1806	Microwave Enginnering	هندسة الموجات الدقيقة	3	2	2	0	-	EENG1501	EENG1201	Electromagnetic 2	كهرومغناطيسية ٢
EENG	1807	Optical Communication	الاتصالات الضوئية	3	2	2	0		EENG1512	EENG1782	Communication Systems	أنظمة الاتصالات
EENG	1808	Special Topics in Communication Systems	موضوعات خاصة في نظم الاتصالات	3	2	2	0	-		EENG1782	Communication Systems	أنظمة الاتصالات
COOP	1801	Cooperative Training 1	تدريب تعاوني ١	3	0	20	0	-		Pre-Req: SINT1751 (متطلب سابق) Co-Req: COOP1802 (متطلب متزامن)	Cooperative Training 1	Cooperative Training 1
COOP	1802	Cooperative Training 2	تدريب تعاوني ٢	3	0	20	0	-		Pre-Req: SINT1751 (متطلب سابق) Co-Req: COOP1801 (متطلب متزامن)	Cooperative Training 2	Cooperative Training 2

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الكلية: التطبيقية اسم البرنامج: دبلوم الهندسة الكهربائية

رمز المستوى الفرعي للبرنامج	071
رمز التخصص	071304

مجموع الوحدات الدراسية للبرنامج	80
مجموع المقررات الدراسية للبرنامج	26

مجموع الوحدات الدراسية لمتطلبات الجامعة	18	مجموع المقررات الدراسية لمتطلبات الجامعة	1
مجموع الوحدات الدراسية لمتطلبات الكلية	لا يوجد	مجموع المقررات الدراسية لمتطلبات الكلية	لا يوجد
مجموع الوحدات الدراسية لمتطلبات القسم	62	مجموع المقررات الدراسية لمتطلبات القسم	25
مجموع الوحدات الدراسية لمتطلبات التخصص الإجبارية	62	مجموع المقررات الدراسية لمتطلبات التخصص الإجبارية	25
بيان مدة التدريب الميداني		6 أشهر	

بيان مستويات الخطة الدراسية للبرنامج

المستوى	الأول	مجموع الوحدات الدراسية المعتمدة للمستوى	18
مجموع مقررات المستوى	1	مجموع ساعات اتصال المستوى	18

م	اسم المقرر	رمز المقرر	الوحدة الدراسية المعتمدة	ساعات الاتصال للوحدة الدراسية المعتمدة		طبيعة المقرر	المتطلبات السابقة	المتطلبات المتزامنة	بيان المقرر
				نظري	عملي/ ميداني				
1	مهارات اللغة الإنجليزية ENGLISH LANGUAGE SKILLS	ENGL 1001	18	18	لايوجد	نظري	لايوجد	لايوجد	متطلب تخصص اجباري

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بيان مستويات الخطة الدراسية للبرنامج

المستوى	الثاني	مجموع الوحدات الدراسية المعتمدة للمستوى	10
مجموع مقررات المستوى	5	مجموع ساعات اتصال المستوى	12

م	اسم المقرر	رمز المقرر	الوحدة الدراسية المعتمدة	ساعات الاتصال للوحدة الدراسية المعتمدة		طبيعة المقرر	المتطلبات السابقة	المتطلبات المتزامنة	بيان المقرر
				نظري/سربري	عملي/ ميداني				
1	رياضيات للهندسة Mathematics for Engineering	EET 4250	3	3	0	نظري	لا يوجد	لا يوجد	متطلب تخصص اجباري
2	مقدمة في تطبيقات الحاسب للمهندسين Introduction to Computer Applications for Engineers	EET 4251	2	1	2	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري
3	فيزياء للهندسة Physics for Engineering	EET 4252	3	2	2	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري
4	كتابة التقارير الفنية Technical Report Writing	EET 4253	1	1	0	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري
5	مهارات الإتصال والسلوك الوظيفي Comm. Skills and Professional Ethics	EET 4254	1	1	0	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري

بيان مستويات الخطة الدراسية للبرنامج

المستوى	الثالث	مجموع الوحدات الدراسية المعتمدة للمستوى	15
مجموع مقررات المستوى	6	مجموع ساعات اتصال المستوى	20

م	اسم المقرر	رمز المقرر	الوحدة الدراسية المعتمدة	ساعات الاتصال للوحدة الدراسية المعتمدة		طبيعة المقرر	المتطلبات السابقة	المتطلبات المتزامنة	بيان المقرر
				نظري/سربري	عملي/ ميداني				
1	أساسيات الطاقة المتجددة Basics of Renewable Energy	EET 4255	3	3	0	نظري	لا يوجد	لا يوجد	متطلب تخصص اجباري
2	أساسيات الهندسة الكهربائية Basics of Electrical Engineering	EET 4256	2	1	2	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري
3	تحليل الدوائر الكهربائية (1) Electrical Circuits Analysis (1)	EET 4257	3	2	2	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري
4	الرسم الفني الكهربائي Electrical Technical Drawing	EET 4258	2	1	2	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري
5	أساسيات الصيانة الكهربائية Basics of Electrical Maintenance	EET 4259	2	1	2	نظري / عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري
6	أجهزة وقياسات كهربائية Electrical Instruments and Measurements	EET 4260	3	2	2	نظري/ عملي	لا يوجد	لا يوجد	متطلب تخصص اجباري

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بيان مستويات الخطة الدراسية للبرنامج

المستوى	الرابع	مجموع الوحدات الدراسية المعتمدة للمستوى	3
مجموع مقررات المستوى	1	مجموع ساعات اتصال المستوى	30

م	اسم المقرر	رمز المقرر	الوحدة الدراسية المعتمدة	ساعات الاتصال للوحدة الدراسية المعتمدة		طبيعة المقرر	المتطلبات السابقة	المتطلبات المتزامنة	بيان المقرر
				نظري/سربري	عملي/ ميداني				
1	تدريب ميداني 1	EET 4261	3	لا يوجد	30	ميداني	اجتياز 18 ساعة دراسية معتمدة	لا يوجد	متطلب تخصص اجباري

بيان مستويات الخطة الدراسية للبرنامج

المستوى	الخامس	مجموع الوحدات الدراسية المعتمدة للمستوى	15
مجموع مقررات المستوى	6	مجموع ساعات اتصال المستوى	20

م	اسم المقرر	رمز المقرر	الوحدة الدراسية المعتمدة	ساعات الاتصال للوحدة الدراسية المعتمدة		طبيعة المقرر	المتطلبات السابقة	المتطلبات المتزامنة	بيان المقرر
				نظري/سربري	عملي/ ميداني				
1	آلات كهربائية (1) Electrical Machines (1)	EET 4500	3	2	2	نظري/ عملي	EET 4252 فيزياء للهندسة	لا يوجد	متطلب تخصص اجباري
2	تقنية التحكم الآلي Automatic Control Technology	EET 4501	3	2	2	نظري/عملي	EET 4250 رياضيات للهندسة	لا يوجد	متطلب تخصص اجباري
3	دوائر إلكترونية Electronic Circuits	EET 4502	3	2	2	نظري/ عملي	EET 4257 تحليل الدوائر الكهربائية (1)	لا يوجد	متطلب تخصص اجباري
4	التركيبات الكهربائية والحماية Electrical Installation and Protection	EET 4503	1	1	0	نظري	EET 4260 مقدمة في أنظمة القوي الكهربائية	لا يوجد	متطلب تخصص اجباري
5	نقل وتوزيع القوي الكهربائية Transmission & Distribution of Electrical Energy	EET 4504	2	1	2	نظري/ عملي	EET 4260 مقدمة في أنظمة القوي الكهربائية	لا يوجد	متطلب تخصص اجباري
6	مقدمة في أنظمة القوي الكهربائية Introduction to Electrical Power Systems	EET 4505	3	2	2	نظري / عملي	EET 4257 تحليل الدوائر الكهربائية (1)	لا يوجد	متطلب تخصص اجباري

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بيان مستويات الخطة الدراسية للبرنامج

المستوى	السادس	مجموع الوحدات الدراسية المعتمدة للمستوى	16
مجموع مقررات المستوى	6	مجموع ساعات اتصال المستوى	21

م	اسم المقرر	رمز المقرر	الوحدة الدراسية المعتمدة	ساعات الاتصال للوحدة الدراسية المعتمدة		طبيعة المقرر	المتطلبات السابقة	المتطلبات المتزامنة	بيان المقرر
				نظري/سربري	عملي/ ميداني				
1	التحكم المنطقي المبرمج Programmable Logic Controller	EET 4506	3	2	2	نظري / عملي	EET 4501 تقنية التحكم الآلي	لا يوجد	متطلب تخصص اجباري
2	السلامة الصناعية Industrial Safety	EET 4507	1	1	0	نظري	لا يوجد	لا يوجد	متطلب تخصص اجباري
3	آلات كهربائية (2) Electrical Machines (2)	EET 4508	3	2	2	نظري / عملي	ELET40501 آلات كهربائية (1)	لا يوجد	متطلب تخصص اجباري
4	تحليل الدوائر الكهربائية (2) Electrical Circuits Analysis (2)	EET 4509	3	2	2	نظري / عملي	EET 4500 تحليل الدوائر الكهربائية (1)	لا يوجد	متطلب تخصص اجباري
5	الدوائر المنطقية الرقمية Digital Logic Circuits	EET 4510	3	2	2	نظري / عملي	EET 4502 أجهزة وقياسات كهربائية	لا يوجد	متطلب تخصص اجباري
6	إلكترونيات القوى الصناعية Industrial Power Electronics	EET 4511	3	2	2	نظري / عملي	EET 4502 دوائر إلكترونية	لا يوجد	متطلب تخصص اجباري

بيان مستويات الخطة الدراسية للبرنامج

المستوى	السابع	مجموع الوحدات الدراسية المعتمدة للمستوى	3
مجموع مقررات المستوى	1	مجموع ساعات اتصال المستوى	30

م	اسم المقرر	رمز المقرر	الوحدة الدراسية المعتمدة	ساعات الاتصال للوحدة الدراسية المعتمدة		طبيعة المقرر	المتطلبات السابقة	المتطلبات المتزامنة	بيان المقرر
				نظري/سربري	عملي/ ميداني				
1	تدريب ميداني 2	EET 4512	3	لا يوجد	30	ميداني	اجتياز 80 ساعة دراسية معتمدة	لا يوجد	متطلب تخصص اجباري

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Master Program

Master of Science in Renewable Energy Engineering Program

The Electrical Engineering Department and the Mechanical Engineering Department of Al-Baha University's Faculty of Engineering provide a Master of Science in renewable energy engineering degree. It provides a high-quality education in the field of renewable energy systems as well as future research in the field of renewable energy use. The program's goal is to encourage renewable energy technology research and development by incorporating cutting-edge information, critical thinking, and problem-solving skills.

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Study Plan for Master of Science in Renewable Energy

Theme 1: Courses and Projects

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours
Level 1	EENG60101	Renewable energy Systems	Required	None	3
	MENG60102	Modelling and Simulations for Renewable Energy Systems	Required	None	3
	MENG60103	Energy Economics	Required	None	3
Level 2		Elective course (1) from group A	Elective	None	3
		Elective course (2) from group B	Elective	None	3
	EENG60201	Optimization Technique in Renewable Energy	Required	None	3
Level 3	EENG60301	Technical Writing & Research Methodology	Required	None	3
		Elective course (3) from group A	Elective	None	3
		Elective course (4) from group B	Elective	None	3
Level 4	PROJ60002	Research Project	Required	None	3
		Elective course (5) from group C	Elective	None	3
		Elective course (6) from group C	Elective	None	3

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Theme 2: Courses and Thesis

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours
Level 1	EENG60101	Renewable Energy Systems	Required	None	3
	MENG60102	Modelling and Simulations for Renewable Energy Systems	Required	None	3
	MENG60103	Energy Economics	Required	None	3
Level 2		Elective course (1) from group A	Elective	None	3
		Elective course (2) from group B	Elective	None	3
	EENG60201	Optimization Technique in Renewable Energy	Required	None	3
Level 3	EENG60301	Technical Writing & Research Methodology	Required	None	3
		Elective course (3) from group A	Elective	None	3
		Elective course (4) from group C	Elective	None	3
Level 4	THES60002	Thesis	Required	None	6

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- **Elective Courses**

No.	Course Code	Course Name	Perquisite(s)	Credit hours
		Group A		
1	EENG60003	Solar Energy Systems	None	3
2	MENG60005	Energy Management	None	3
3	EENG60006	Control Systems engineering	None	3
4	MENG60002	Energy Conversion Systems and Storage	None	3
5	EENG60009	Biomass Energy Systems	None	3
		Group B		
1	MENG60004	Wind Energy Systems	None	3
2	EENG60013	Smart Grids	None	3
3	MENG60010	Geothermal Energy Systems	None	3
4	MENG60007	Energy Efficiency Systems Analysis and Auditing	None	3
5	EENG60008	Renewable energy power quality	None	3
		Group C		
1	EENG60001	Hydrogen Energy and Fuel Cells	None	3
2	EENG60012	Application of Nanotechnology in Renewable Energy Systems	None	3
3	EENG60014	Power electronics applications in renewable energy systems	None	3
4	MENG60011	Energy and environment	None	3

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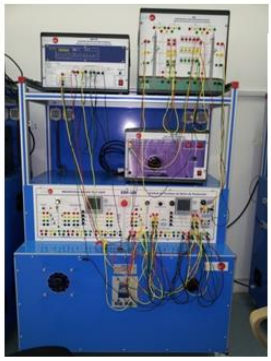
7. Department Laboratories

7.1 Introdcution

Lab activities represent 20% of the course grades, while the rest of semester activites accounted for 40% of the total course grade. The Department of Electrical Engineering contains eighteen (18) laboratories as summurised in Table (7) and (8).



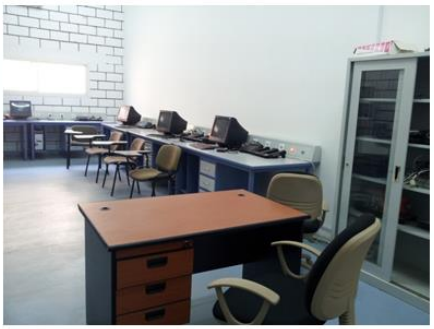


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Table (7) Department Laboratories

#	Lab Title		Lab location	Lab related courses
1	Optical Communications	Communications	Room No. (2509)	Optical Communications
2	Communication Systems			Communication Systems
3	Communication Theory			Communication theory
4	Digital Communications			Digital communications
5	Digital Signal Processing			Digital Signal Processing
6	Control Systems			Automatic control,
7	Digital Control System			digital control
8	Electrical and electronic measurements			Electrical and electronic measurements
9	Electric machines		Room No. (2608)	Electric machines 1, Electric machines 2
10	Transmission Lines			Introduction to electrical engineering
11	Electrical power systems analysis		Room No. (2514)	Electrical Power System Analysis, Graduation Projects
12	Fundamentals of electrical engineering		Room No. (2125)	Fundamentals of electrical engineering
13	Electronic devices		Room No. (2508)	Electronic devices
14	Electronic circuit			Electronic circuits
15	Digital Electronics			Digital Electronics
16	Circuit analysis		Room No. (2609)	Electrical circuit analysis1 and 2
17	Microprocessor		Room No. (2409)	Microprocessor
18	Embedded systems			Embedded systems

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Table (8) Some Laboratory Specifications summary

#	Lab title	Room No.	Installation year at College	Supplier	Manufacturer	Manufacturer's country	Experiment System
1	Optical Communications	2509	1429 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
2	Communication Systems	2509	1429 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
3	Communication Theory	2509	1429 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
4	Digital Communications	2509	1429 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
5	Digital Signal Processing	2509	1429 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
6	Control Systems	2509	1429 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
7	Digital Control System	2509	1429 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
8	Electrical and electronic	2509	1432 AH	Arab Engineers	Lucas Nulle	Germany	UniTrain-I System
9	Electric machines	2608	1429 AH	Arab Engineers	Lucas Nulle	Germany	
10	Transmission Lines	2608	1429 AH	Arab Engineers	Lucas Nulle	Germany	
11	Electrical power systems analysis	2501	1429 AH	Arab Engineers	ISO-TECK		
12	Fundamentals of electrical engineering	2608	1435 AH	Power World	Power World	USA	
13	Electronic devices	2508	1429 AH				
14	Electronic circuit	2508	1429 AH	Arab Engineers	ELWE	Spain	
15	Digital Electronics	2508	1435 AH	Education Technology	FeedBack	USA	
16	Circuit analysis	2609	1429 AH		ISO-TECK		
17	Microprocessor	2409	1429 AH				
18	Embedded systems	2409	1429 AH				

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7.2 Lab specifications

7.2.1 Embedded System Laboratory

Lab course number	32052520
Lab instructor	Dr. Salem ZERKAOUI - Email: smajeed@bu.edu.sa
Room number	2409
Credit hours	3 (2, 2, 0) (lecture, lab, tutorial) (4 contact hours)
Description	This Lab includes: Design of microcomputer-based embedded systems - Input /Output ports, serial communication, programmable interrupts - ADC, DAC, interfacing and timers - the assembly language of 8086 family microprocessor.
Objectives	**1.** To introduce the basic concepts of small scale embedded system design using microcomputer/microcontroller **2.** To develop assembly and C language programming skills for real time applications of Microcontroller **3.** To learn microcomputer interfacing from both a hardware and software perspective
List of experiments	**1.** 8255-Parallel Port Control (LED Blinking Control) **2.** 74LS373-Latch control (FND controlled by TACT Switch) **3.** 8253- Timer Control (Piano-Input from Tact Switches) **4.** 8259- Programmable Interrupt Control **5.** DAC0808- Digital to Analog Conversion(Sawtooth Wave Generation) **6.** ADC0809- Analog to Digital Conversion(Variable Resistor) **7.** 8279- Keypad and LCD Control **8.** 8251-Serial Port Control (Serial Transmission Using RS232)

7.2.2 Microprocessors Laboratory

Lab course number	**32051404**
Lab instructor	**Dr. Salem ZERKAOUI** - Email: smajeed@bu.edu.sa
Room number	**2409**
Credit hours	**4 (3, 2, 0) (lecture, lab, tutorial) (5 contact hours)**
Description	This Lab includes: 8086 Microprocessor Architecture; Pins and Signals; Machine Language; Assembly Instruction Set of 8086 microprocessor (Data Transfer Instructions - Arithmetic Instructions - Logical Instructions - Bit Manipulation Instructions - Program Transfer Instructions - Processor Control Instructions); Memory and I/O Devices Interfacing; Interrupts; Microprocessor-Based System Applications.

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Objectives	▪ Introduce the basic concepts related to architecture, types and components of microprocessor systems ▪ Describe the purpose of microprocessor internal registers ▪ Apply knowledge of the microprocessor's internal registers and operations by use of a PC based microprocessor simulator (emu8086) and Microcomputer training system (MTS-86C).
List of experiments	**1. 8086 Emulator:** Programing with microprocessor's internal registers and operations **2. 8086 Emulator:** Arithmetic & Logical operation and Program flow control **3. MTS-86C:** Introduction to MTS-85C Microcomputer training system **4. MTS-86C:** Program Development, Assembling, Downloading, and Debugging **5. MTS-85C:** Programming the Input Output Ports **6. MTS-86C:** Programming the Interrupt

7.2.3 Control Systems Laboratory

Lab course number	EENG1509
Lab instructor	Dr. Mohamed Fathy - Email: mmfathy@bu.edu.sa
Room number	2509
Credit hours	4 (3, 2, 0) (lecture, lab, tutorial) (5 contact hours)
Description	The basics of the control system are demonstrated in this laboratory using **MatLab**, such as open-loop and closed-loop control systems, system time response and stability, disturbance rejection and steady-state accuracy, design and instrumentation of feedback control system, and PID tuning.
Objectives	▪ To familiarize the students with the concept of control system analysis and design in time and frequency domain working with lab equipment to reinforce the concepts. ▪ To familiarize the students with the characteristics and limitations of real control devices.
List of experiments	**1.** Experiment (1): Introduction to MATLAB **2.** Experiment (2): Programming in MATLAB (M-files) **3.** Experiment (3): Determination the Laplace transforms and the inverse Laplace transforms **4.** Experiment (4): Determination the transfer function from differential equations, Block diagrams, and Signal Flow Graph **5.** Experiment (5): Determination of pole, zero, and gain values from given transfer function

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	6. Experiment (6): Determination of step & impulse response for a first order unity Feedback system **7.** Experiment (7): Determination of step & impulse response for a Second order unity Feedback system **8.** Experiment (8): Determination of Step & Impulse Response for a Type '0', Type '1', Type '2' Systems **9.** Experiment (9): Study the stability of the system using the root locus

7.2.4 Digital Control System Laboratory

Lab course number	32050501
Lab instructor	Dr. Salem ZERKAOUI - Email: smajeed@bu.edu.sa
Room number	2509
Credit hours	4 (3, 2, 0) (lecture, lab, tutorial) (5 contact hours)
Description	This Lab includes: Introduction to digital control systems (Z-transform, solution of the difference equations, inverse Z-transform, sampling and reconstruction), open loop discrete time systems, closed loop discrete time systems, system time response and stability, design of digital controllers. When doing the lab, the software packages MATLAB with Control Systems Toolbox are used for the analysis and design of control systems.
Objectives	1. Establish an understanding and appreciation of the mathematical representation and modeling of discreet-time systems. 2. Introduce students to sampling A/D, D/A converters and quantization effects. 3. Provide students with an understanding of transient specifications and steady state tracking and their effects on system design. 4. Learn how to design digital PID controllers completely in the discrete world using root locus method and SISOTOOL from Matlab **5.** Provide students with a control design project reflective of those encountered in the real-world, e.g., working in groups to meet desired specifications with time and resource constraints using appropriate software, hardware and simulation techniques.
List of experiments	• Z – transform of discrete systems • Step response of a discrete time system and effect of sampling time on system response • Open-loop discrete-time systems, and closed-loop discrete-time systems • Steady-state accuracy. Stability analysis techniques (what is stability, the bilinear transformation, the Routh-Hurwitz criterion, Jury's stability test). • Root locus analysis and design. • Semester Project: Analysis and design of a digital control system (DC motor Position, Two Tank System, Magnetic levitation, Inverted Pendulum,… etc.)

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7.2.5 Electrical and Electronic Measurements Laboratory

Lab course number	**32051302**
Lab instructor	Dr. Shawki Saad - Email: saahmed@bu.edu.sa
Room number	2204
Credit hours	3 (2, 2, 0) (Lecture, Lab, Tutorial) (4 Contact Hours)
Description	**This lab includes: Definition of measurement, measurement process, methods of measurement, measurement system and its elements, classification of instruments, definitions of some static characteristics, errors of measurement, types of errors, basics of statistical analysis and probability of errors.**
Objectives	● **The general concepts of measurements** ● **Electrical measuring instruments.** ● **Electronic measuring instruments.** ● **Different errors types of measurement**
List of experiments	**1-** General measurement concepts **2-** Elements of measurement systems **3-** Measurement element definition **4-** Observations about elements **5-** Measurements of current, voltage, power…etc **6-** Measurements of resistance, inductance, and capacitance **7-** Error analysis in measurements.

7.2.6 Optical Communications Laboratory

Lab course number	32052512
Lab instructor	Dr. Ahmed Salah - Email: a.shalaby@bu.edu.sa
Room number	2204
Credit hours	3 (2, 2, 0) (Lecture, Lab, Tutorial) (4 Contact Hours)
Description	This Lab includes: design Optical communication system from component to system level at the physical layer, different types of Optical Transmitter, Optical source modulation response**,** Optical Receiver design , sensitivity, WDM system Design**.**
Objectives	● Introduce and analyze the basic components of Optical communication system ● Optical Transmitter design

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	● Optical Receiver design ● performance evaluation of Optical communication system ● WDM system Design
List of experiments	1- Introduction to Optical Communication System Design Software 2- Optical Transmitter -Direct Modulation 3- Optical Transmitter — External modulated laser (Mach-Zehnder Modulator) 4- Parameter Sweeps — BER x Input power 5- LED modulation response 6- Semiconductor laser modulation response 7- Optical Receiver design 8- Optical Receiver sensitivity—Minimum input power 9- Optical Systems — WDM Design

7.2.7 Communication Systems Laboratory

Lab course number	32052408
Lab instructor	Prof. Dr./ Ashraf Abdelaziz -Email: amamdouh@bu.edu.sa
Room number	2204
Credit hours	3 (2, 2, 0) (Lecture, Lab, Tutorial) (4 Contact Hours)
Description	This Lab includes: noisy signal representation in time and domain, analysis of Gaussian, Exponential and Uniform probability distribution functions of noise, filtering of noisy signals, analysis of amplitude and angle modulation waveforms in a noisy environment and analysis of PCM in noisy digital communication channels.
Objectives	• To analyze different probability distribution functions of noise. • To generate some noisy signal waveforms and analyze their time-domain and frequency-domain representations. • To analyze amplitude modulation signal waveforms (SSB, DSB, VSB) in a noisy environment. • To analyze angle modulation signal waveforms in a noisy environment. • To analyze PCM digital communication channels in a noisy environment.
List of experiments	1- Analysis of different probability distribution functions of noise. 2- Analysis of amplitude modulation signal waveforms in a noisy channel. 3- Analysis of angle modulation signal waveforms in a noisy channel. 4- Analysis of PCM digital communication channels in a noisy environment. 5- Operations of complex numbers and plotting graphs using MATLAB Commands. 6- Generation and analysis of amplitude modulation signal waveforms in a noisy environment using MATLAB.

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	7- Generation and analysis of angle modulation signal waveforms in a noisy environment using MATLAB. 8- Generation and analysis of PCM digital communication channels in a noisy environment using MATLAB.

7.2.8 Communication Theory Laboratory

Lab course number	32052405
Lab instructor	Prof. Dr./ Ashraf Abdelaziz - Email: amamdouh@bu.edu.sa
Room number	2204
Credit hours	4 (3, 2, 0) (Lecture, Lab, Tutorial) (5 Contact Hours)
Description	This Lab includes: signal representation in time and frequency domain, filtering, bandwidth, analysis of amplitude modulation waveforms and analysis of angle modulation waveforms.
Objectives	• To generate some signal waveforms and analyze their time-domain and frequency-domain representations. • To analyze amplitude modulation signal waveforms (SSB, DSB, VSB) and compare their time-domain and frequency-domain representations. • To compare angle modulation signal waveforms; frequency modulated and phase modulated waveforms (FM & PM) and analyze their time-domain and frequency-domain representations.
List of experiments	1-Time-domain and frequency-domain signal representations. 2- Generation of amplitude modulation signal waveforms. 3- Generation of angle modulation signal waveforms (Frequency Modulation (FM) and Phase Modulation (PM)). 4- Introduction to MATLAB. 5- Operations of complex numbers using MATLAB. 6- Plotting graphs using 2-D MATLAB commands. 7- Time-domain and frequency-domain signal representations using MATLAB. 8- Generation of amplitude modulation signal waveforms using MATLAB. 9- Generation of angle modulation (FM & PM) signal waveforms using MATLAB.

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7.2.9 Electronic Circuits

Lab course number	32052403
Lab instructor	Dr. Shawki Saad - Email: saahmed@bu.edu.sa
Room number	2508
Credit hours	4 (3, 2, 0) (Lecture, Lab, Tutorial) (5 Contact Hours)
Description	This Lab includes: Amplifier operation and different configurations, common emitter, common collector, and multistage amplifiers. Some concepts of amplifier frequency response, low-frequency amplifier response(Bode Diagram), high-frequency amplifier response, and total amplifier frequency response.The feedback concept and the effect on the amplifier (gain, bandwidth and impedances). The differential amplifiers and op-amps.
Objectives	· Introduce and analyze the basic principles of amplifier analysis for different configurations, · Frequency response, multistage amplifiers, BJT · High frequency equivalent circuit for amplifier analysis, · Different classifications of amplifiers, and · Operational Amplifiers
List of experiments	1- Oscilloscope and signal generator 2- The transistor configuration 1 3- The transistor configuration 2 4- The transistor configuration 3 5- RC coupled multistage amplifier 6- Amplifier's low frequency response 7- Amplifier's high frequency response

7.2.10 Digital Electronics Laboratory

Lab course number	32050502
Lab instructor	Dr./ Mohamed Mostafa Ibrahim - Email: m.ibrahim@bu.edu.sa
Room number	2508
Credit hours	**4 (3, 2, 0) (Lecture, Lab, Tutorial) (5 Contact Hours)**
Description	**This Lab includes:** Integrated Digital Circuits Technologies, CMOS Circuits (Inverter, NAND, NOR, XOR) gates, TTL (Bipolar) Circuits (Inverter, OR, AND, XOR). Signal Conversion and Processing, Analog-to-Digital Conversion and methods, Parallel (Flash) ADC, Successive approximation ADC.

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	Digital-to-Analog Converters, Operational Amplifier, The R-2R Ladder DAC.
Objectives	• Integrated-circuit logic gates • Integrated Digital Circuits Technologies (CMOS&TTL) • Operational Amplifier Circuits • Analog-to-Digital Converters • Digital-to-Analog Converters. • Design requirements into logic expressions.
List of experiments	1) CMOS Inverter 2) CMOS NAND Gate 3) CMOS NOR Gate 4) CMOS XOR Gate 5) TTL Inverter 6) TTL OR Gate 7) TTL AND Gate 8) TTL X-OR Gate 9) Parallel (Flash) ADC 10) Successive approximation ADC 11) Digital to Analog Conversion (DAC) 12) The R-2R Ladder DAC

7.2.11 Electronic devices lab

Lab course number	32052308
Lab instructor	Dr. Ahmad Tazay - Email: afareed@bu.edu.sa
Room number	2508
Credit hours	3 (2, 2, 0) (lecture, lab, tutorial) (4 contact hours)
Description	This laboratory manual provides the guideline for preparing students to learn and understand the basic rules of the lab as well as integrate the theoretical section with the experiment testing. How the student performs in the lab depends on his/her preparation, participation, and teamwork. Each team member must participate in all aspects of the lab to insure a thorough understanding of the equipment and concepts.
Objectives	1. Implementing the theoretical aspects of electronics using experimental testing. 2. Writing a formal report by collecting practical data. 3. Define the principles and different between different types of electronic devices.
List of experiments	**1.** PN Junction Diode.

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	2. Half-wave Rectifier. **3.** Full-wave Rectifier. **4.** Rectification Filter. **5.** BJT.

7.2.12 Logic circuits lab

Lab course number	32052305
Lab instructor	Dr./ Mohamed Mostafa Ibrahim - Email: m.ibrahim@bu.edu.sa
Room number	2508
Credit hours	**4 (3, 2, 0) (Lecture, Lab, Tutorial) (5 Contact Hours)**
Description	**This Lab includes:** Logic operations and gates: AND, OR, Inverter, NAND NOR, XOR, XNOR. Boolean analysis of logic circuits, Standard forms of Boolean expressions, representation of Logic functions, describe the operation of basic gates, Obtain truth table from word description, and obtain logic functions and logic networks from truth table. Implement the logic functions; analyze various combinational and sequential circuits.
Objectives	• Construct circuits diagram for each logic gates • Construct the truth table for each logic gates • Generate the timing diagram for each logic gates • Design requirements into logic expressions. • Logic Implementation Using Basic Gates. • Logic Implementation Using NAND and NOR Gates. • Design various combinational circuits (Half adder – full adder – voting machine). • Design various sequential circuits.
List of experiments	1) AND - Gate 2) OR- Gate 3) NOT- Gate (Inverter) 4) Equivalence Circuit (EX-NOR- Gate) 5) Non-Equivalence Circuit (EX-OR- Gate) 6) NAND- Gate 7) AND logic using NAND- Gates 8) NOR- Gate 9) Half Adder 10) Half Subtractor 11) Decoder

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7.2.13 Transmission and Distribution Electrical Energy Laboratory

Lab course number	32052516
Lab instructor	Dr. Mohammed Hatatah - Email: Hatatah@bu.edu.sa
Room number	2608
Credit hours	3 (2, 2, 0) (Lecture, Lab, Tutorial) (4 Contact Hours)
Description	The laboratory consists of a set of generators, DC motor, and transformers. The laboratory includes different digital measuring equipment's for measuring the voltage, current, power and power factor values required for different tests. Also, the laboratory includes different types of loads such as resistive, inductive, and capacitive loads required for different tests
Objectives	• Give students knowledge and understanding of Transmission & Distribution system. • develop understanding of power system analysis through simulations in MATLAB Simulink, and ETAP.
List of experiments	• Study of a simulated three-phase line. • Study of parallel transmission lines. • Study of transmission lines with earth fault compensation.

7.2.14 Electrical Machines Laboratory

Lab course number	EENG 1758
Lab instructor	Dr. Omar Noureldeen - Email: o.hassan@bu.edu.sa
Room number	2608
Credit hours	4 (3, 2, 0) (lecture, lab, tutorial) (5 contact hours)
Description	The laboratory consists of a set of generators, AC motor, and transformers are fed from a main control panel with a continuous voltage of 220 V for the generator and DC motors and a single-phase alternating voltage of 220 V and a 60 Hz frequency with three-phase service feed with 380 volts. This lab is intended to impart a practical knowledge of industrial AC motors. The laboratory experiments focus on investigating their functionality, response, and effect. Also, this lab covers the practical synchronization of generators.
Objectives	▪ To measure the motor voltage and current and operate the motor with AC and DC voltage. ▪ To measure and control the speed of different motor types. ▪ To analysis the load characteristics for different industrial motor types.

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	▪ To control and synchronize power generators using manual and automatic methods.
List of experiments	**1.** Industrial AC motor construction and safety. **2.** Universal motor wiring and starting. **3.** Universal motor rotation reversal. **4.** Universal motor load characteristics. **5.** Single-phase motor with a bifilar winding wiring and starting. **6.** Single-phase motor with a bifilar winding rotational reverse. **7.** Single-phase motor with a bifilar winding load- characteristics. **8.** Capacitor motor wiring and starting. **9.** Capacitor motor rotational reverse. **10.** Capacitor motor load characteristics.

7.2.15 **Digital Communications Laboratory**	
Lab course number	32052517
Lab instructor	Dr./ Saeed Alamri - Email: salamri@bu.edu.sa
Room number	2509
Credit hours	3 (2, 2, 0) (Lecture, Lab, Tutorial) (4 Contact Hours)
Description	This Lab includes: signal representation in time and frequency domain and analysis of digital modulation waveforms; ASK, FSK, PSK and DPSK.
Objectives	• To generate some digital signal waveforms and analyze their time-domain and frequency-domain representations. • To analyze Amplitude Shift Keying (ASK) signals and compare its time-domain and frequency-domain representations. • To analyze Frequency Shift Keying (FSK) signals and compare its time-domain and frequency-domain representations. • To analyze Phase Shift Keying (PSK) and Differential Phase Shift Keying (DPSK) signals and compare their time-domain and frequency-domain representations. • To compare between ASK, FSK, PSK and DPSK signals.
List of experiments	**1**-Time-domain and frequency-domain representations of digital signals. 2- Generation and analysis of ASK signals. 3- Generation and analysis of FSK signals. 4- Generation and analysis of PSK signals. 5- Generation and analysis of DPSK signals. 6- Introduction to Matlab. 7- Generation and analysis of ASK and FSK signals using MATLAB. 8- Generation and analysis of PSK and DPSK signals using MATLAB.

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7.2.16 Digital Signal Processing

Lab course number	32052513
Lab instructor	Dr. Ahmed Salah - Email: a.shalaby@bu.edu.sa
Room number	2509
Credit hours	3 (2, 2, 0) (Lecture, Lab, Tutorial) (4 Contact Hours)
Description	This Lab includes: Sample and reconstruct analog signals, Compute circular convolution, linear convolution and the (DFT) of discrete-time signals, design and implementation of digital signal processing systems in time domain, implement digital systems using DFT and (FFT).
Objectives	• Analyze and implement digital signal processing systems in time domain. • Design frequency-selective digital filters. • Design digital filters using windows. • Sample and reconstruct analog signals. • Compute circular convolution, linear convolution and the discrete Fourier transform (DFT) of discrete-time signals. • Analyze and implement digital systems using the DFT and the Fast Fourier Transform (FFT).
List of experiments	1- Waveform generation -Square, Triangular and Trapezoidal using Octave 2- Sampling Theorem using Octave 3- Impulse Response using Octave 4- Linear Convolution using Octave 5- Difference Equation using Octave 6- Circular convolution using Octave 7- N point DFT using Octave 8- Linear convolution using DFT and IDFT 9- Circular convolution using DFT and IDFT 10- Implementation of FIR filter 11- Design and implementation of IIR filter.

7.2.17 Power System Analysis Laboratory

Lab course number	32051406
Lab instructor	Dr. Mohammed Hatatah- Email: Hatatah@bu.edu.sa
Room number	2501
Credit hours	4 (3, 2, 0) (Lecture, Lab, Tutorial) (5 Contact Hours)
Description	The laboratory consists of a set of generators, DC motor, and transformers. The laboratory includes different digital measuring equipment's for measuring the voltage, current, power and power factor

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	values required for different tests. Also, the laboratory includes different types of loads such as resistive, inductive, and capacitive loads required for different tests
Objectives	• To measure the line to neutral voltage of a single-phase AC supply and analysis the load effects. • To operate the system and do synchronization of different machines. • To measure the voltages and analysis the load effects of balanced and unbalanced systems. • To use Power World Simulation for different types of power system analysis. • To study the load flow for power system. • To do fault calculation for different types of faults.
List of experiments	1. General Description of synchronous Machine 2. Synchronization Experiment 3. Power Flow 4. Fault Calculation

7.2.18 Electric Circuit Analysis Laboratory

Lab course number	32050401
Lab instructor	Dr. Mishari Almalki Email: mmalmalki@bu.edu.sa
Room number	2609
Credit hours	3 (2, 2, 0) (lecture, lab, tutorial) (4 contact hours)
Description	This lab presents the fundamental principles of electric circuits. It covers the basic topics as the following: Y-Δ transformation, Superposition Theorem, Thevenin Theorem, Maximum Power Transfer Theorem.
Objectives	▪ Understanding the basic principles electrical engineering. ▪ Applying the different electrical theorems on different electrical circuits.
List of experiments	**1.** Y-Δ Transformation. **2.** Superposition Theorem **3.** Thevenin Theorem, **4.** Maximum Power Transfer Theorem.

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8. Department Achievements (2011-2024)

The department's strategic objectives, as well as the axes and objectives that go with them, were created by and integrated with the university's strategic plan and the college's strategic plan.

The emphasis was on putting the specified aims into action through numerous plans, initiatives, and projects, as summarised below:

Objective 1: Excellence in engineering education and learning

1- Quality Assurance Theme

Objectives
1- Developing the curriculum and the educational program in the department in accordance with the standards of total quality and academic accreditation.
2- Creating an atmosphere conducive to the application of the philosophy and principles of quality and excellence in performance and the requirements of scientific and academic leadership.

The Department of Electrical Engineering was established in the academic year 1429/1430 according to the study plan of the College of Engineering at Umm Al-Qura University. In the academic year 1431/1432 AH, the department updated the study plan to allow the student to study 162 credit hours and to grant the graduating student a bachelor's degree in electrical engineering within ten semesters, of which the student spends two semesters in the preparatory year for the College of Engineering. After the update, the plan was called (the 1430 AH plan).

In the academic year 1433/1434 AH, a study plan for the college was updated and included all scientific departments. It was approved under the name (Plan 1433 AH). It was approved by all the relevant councils, starting from the department council until the Minister of Higher Education approved the minutes of the University Council in its third session for the academic year 1434/1435 on 06/21/1435. According to this plan, a student must pass 162 credit hours to obtain a Bachelor of Science in Engineering degree.

In the academic year 1431/1432 AH, the bridging system was introduced at the university. Within the framework of this system, a bachelor's program in electrical engineering for bridging students has been developed. The Umm Al-Qura plan has been amended so that the student studies a total of 152 credit hours, so that the student enrolled in this program completes no less than 60% of the total hours of the Umm Al-Qura program approved in the department without including 12 hours of university requirements from it. This modification was called (Bridge Plan). In the academic year 1438/1439, the bridging plan was canceled and new batches of bridging students were accepted under a unified study plan with regular students in the department.

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In the academic year 1438/1439 AH, the study plan of 1433 AH was modified as a result of the amendment of university requirements under the name (Plan 1438 AH).

In the academic year 1444 H, the study plan was modified to three semesters per year as a result of the amendment of university requirements and the requirements of NCAAA to modify the educational plans under the name (Plan 1444-1445 H). This is the currently approved plan.

2- Teaching & Learning Quality Theme

Objectives
1- Keeping abreast of the global development in scientific knowledge and applied techniques, contributing to and adding to them, and benefiting from modern teaching and learning resources and means
2- Developing the curriculum and the educational program and ensuring that it is compatible with the required professional and scientific standards and the expectations of the concerned parties.

The courses are taught electronically using the Rafid program under special cases, and electronic media is used in interactive education.

3- Student Learning Support Theme

Objectives
1- Supporting students and providing them with high quality educational and development services that increase their efficiency and competitiveness in the labor market.
2- Expanding the student exchange and student activities with other local/international colleges in the scientific and professional fields and student activities.
3- Integrated scientific, intellectual, personal and physical preparation in accordance with international specifications and standards without prejudice to our lofty Islamic values.
4- Supporting and encouraging excellence, creativity, innovation and talent discovery.

These objectives are achieved through the various student activities carried out by the Deanship of Student Affairs at Al-Baha University.

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4- HR - Teaching Staff Theme

Objectives
1- Developing the capabilities of faculty members through effective training programs and attending conferences and scientific forums that keep pace with global development.
2- Encouraging excellence and creativity in various activities and programs, and embracing development initiatives undertaken by faculty members.
3- Developing the department's administrative systems in line with the comprehensive quality standards and academic accreditation.

Teaching Staff members in the department have been qualified from the scholarship program to various American, UK, Canadian and Australian universities since the academic year 1430 H. In the year 1445 H, the number of Saudi Teaching Staff members reached (1) with the rank of professor, (1) with the rank of associate professor, and (9) members with the rank of assistant professor. In addition, the number of students on scholarships is (4) members in the different academic levels (Master's, Ph.D.). Non-Saudi Teaching Staff members were hired with several (10) in the academic year 1445 AH.

Obective 2: To provide a good environment for teaching and learning

1- Continuing Education Theme

Objectives
1- Developing the department’s role in developing the capabilities of the local community and its institutions to continue teaching and learning at the individual, collective and institutional levels.
2- Organizing distinguished and specialized scientific conferences and symposia.
3- Encouraging enrollment to continue teaching and learning after graduation.

In the academic year 1430/1431 AH, a bridging program was established in the department to allow graduates of community colleges to complete their university education and obtain a bachelor's degree through an academic program independent of the regular program in the department.
In the academic year 1437, a bridging program was developed in which students study within the study plan of regular students. Three tuition payments are accepted into this program.

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2- Learning Environment Theme

Objectives
1- Continuous support and encouragement for learners to ensure an attractive and safe environment
2- Continuing to provide programs inside and outside the department that respond to the requirements of students and the community in terms of content, flexibility of access and the needs of the labor market

The University City in Al-Aqiq represents an attractive and safe environment for students, as most of the integrated infrastructure of the university city has been completed.

Objective 3: Excellence in the field of scientific research

1- Specialized Research Theme

Objectives
Improving the efficiency and effectiveness of scientific and applied research for the department.

The Teaching Staff members in the department contributed to the research activity in the name of Al-Baha University through research published in international conferences and meetings. One of the electrical engineering department's faculty members is included in the Elsevier List of the World's Top 2% Scientists for the years 2021, and 2022 and in the Stanford University List of Top 2% Scientists for the year 2020.
Links:
https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3

https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000918

https://data.mendeley.com/datasets/btchxktzyw/2

2- Human Resources Theme

Objectives
Developing the efficiency and capabilities of faculty members in the field of scientific and applied studies and research

The competencies and capabilities of faculty members in the field of scientific and applied scientific studies and research have been developed through scientific forums, workshops and training courses, including:

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1) The First Annual Forum, Deanship of Scientific Research and Higher Education, Al-Baha University, 17-18 3/2014,
2) Workshop on the mechanisms of achieving quality performance, Al-Baha University, 1-2/4/2014
3) The First Forum for Academic Accreditation - Future Trends", Deanship of University Development and Community Service, Al-Baha University, 20/5/2015
4) Training course on Academic Quality Assurance, Deanship of University Development and Community Service, Al-Baha University, 5-9/9/2015.
5) Aafaq Workshop - Updating the Afaq 2 Plan, Al-Baha University, 2/2/2016.
6) Workshop on "Basic Concepts in Key Performance Indicators", The National Center for Measurement of the Performance of Public Institutions (Adaa), Al-Baha University, December 12, 2018.
7) Training program on "Basic Requirements in Academic Advising" Department for Developing the Skills of Faculty Members, Al-Baha University, 12/2/2019.

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3- Infrastructure Theme

Objectives
Establishing and developing laboratories and providing modern technologies in the field of scientific research.

The Electrical Engineering Department contains sixteen (16) laboratories. These laboratories have been purchased since the establishment of the department in the year 1429 from international companies that have long experience in designing educational engineering laboratories.

4- Postgraduate Studies Theme

Objectives
Creating postgraduate programs in the department

In the academic year 1432/1433 AH, a committee was formed to study and prepare a proposal for a master's program in the Department of Electrical Engineering, which aims to prepare scientific cadres in the fields of advanced electrical engineering that are qualified to lead and develop the scientific research process, absorb technical progress, participate in the development of industry and solve environmental problems.

In the academic year 1434/1435 AH, the previous proposal was re-examined and updated, and a master's program was proposed in four different tracks (the electric power systems track, the electric traction and propulsion track, the communications track, and the electronics track).

In the academic year 1439/1440 AH, a master's program in the Department of Electrical Engineering was re-examined, with the aim of preparing scientific cadres in the fields of

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renewable energy engineering. The proposal was approved by the College Council in its seventeenth session on 21/07/1440 AH.
In the academic year 1442 H, a master's program in the Department of Electrical Engineering in the field of renewable energy engineering was started to receive the post-graduate students.

Objective 4: To contribute to programs and projects directed at community service

Objectives
Linking the department's educational and scientific research programs and curricula to the needs of the community and the region's resources, and improving the quality of environmental, social and economic life for the community.

The department participated in academic activities and events related to community service for the various parties in the Al-Baha region. These activities include:

1) **Mawhiba program**

In the academic year 1433/1434, the department participated in the Mawhiba program sponsored by the King Abdulaziz and His Companions Foundation for Giftedness and Creativity by hosting 16 students from secondary school students in the Kingdom through the department providing students to complete their research projects in the department's laboratories in the period 6-24 Shaban 1434 e. Figures No. (14) and (15) show some of the work carried out by the students in the laboratories of the Electrical Engineering Department.

2) **Participation in the scientific conference for male and female students of higher education in the Kingdom**

The department participated in two research papers in the Fifth Scientific Conference for male and female students of higher education in the Kingdom in the academic year 1434/1435. The department also participated in three research papers in the Sixth Scientific Conference in the academic year 1435/1436, and one research was selected.

First research work (5th Scientific Conference)

Title: Electric traction systems and sustainable transportation

B) The second research work (5th Scientific Conference)

Title: A study on the organizers of the intermittent mode feeding units

c) The first research work (6th Scientific Conference)

Title: Computer Aided Design for Electrical Induction Machines (Applications of Electric Traction and Propulsion Systems)

3) Implementation of student graduation projects that serve the community, among which we mention projects that help in solving some problems when operating the electricity system in the south of the Kingdom for the different levels of efforts in the transmission and distribution system, using a solar-powered Volve car and hydrogen energy for use

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at Al-Baha University, providing electrical energy in the university buildings using smart and thermal devices, developing a wheelchair using embedded systems and artificial intelligence and applying it in the Meccan campus, ...

4) **Participation in a scientific symposium in cooperation with the Saudi Council of Engineers - Al-Baha Branch**

Seminar topic:

Transition to the application of the international voltage 230/400 volts in Saudi Arabia and its impact on the consumer.

In the theater of the College of Engineering in Burgdan in the month of Dhu al-Qa'dah 1435 AH, where the Deanship of the College of Engineering organized this Seminar.

5) **Participation in scientific research related to the development of the Al-Baha region and funded by the Deanship of Scientific Research at the University:**

i. Study on the reduction of electrification resulting from friction
ii. Total solar radiation on the city of Al-Baha (Saudi Arabia): a comparison between the expected results of the numerical models and the measured results (023/1434)
iii. Spreading the use of solar water heaters in the Al-Baha region
iv. Design and implementation of a renewable energy system to generate electricity in rural and isolated areas in Al-Baha region

Objective 5: Contributing to Engineering consultancy and different training courses programs directed to community service

No.	Specialization	Fields of engineering consultancy
1	Renewable Energy	• Engineering and technical consultations in the field of renewable energy and energy efficiency. • Holding courses, seminars and workshops. • Technical, financial and analytical feasibility studies.
2	Energy Engineering (Power Electronics)	• Consultation work in the field of energy engineering in terms of planning and designing stations and networks. • Providing solutions regarding the uses of power electronics in renewable energy networks and how to control them to increase the reliability of the network. • Providing general courses in the fields of electrical engineering, as well as specialized courses in the field of power engineering and power electronics.

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3	High Voltage	• Engineering consultancy in the field of low-voltage systems design (lighting systems design, power systems design, design schedules for low voltage panels, design of protection circuit breakers, selection of transformer and generator and design of the Capacitor Bank Design). • Prepare the Electrical Bill of quantities for the projects. • Providing a training course in the AutoCad (2-D) engineering drawing program. • Providing a course in designing lighting systems using the Relux program. • Providing a course in designing power systems for various projects. • Providing a course in designing load schedules for low voltage panels. • Providing a course in the design of the transformer and generator, and A.T.S, UPS and power factor improvement panel design (Capacitor Bank Design).
4	Control engineering	• Engineering and technical consultations in the field of control engineering in power systems • Holding courses, seminars and workshops in the field of controlling maximum power points.
5	Communications and Electronics	• Development of electronic warfare systems • Consulting and training in the field of electronic warfare • Consulting and development of antennas for medical applications • Project management
6	Renewable energy	• Providing technical solutions and engineering consultations related to energy • Training in the fields of electrical engineering and renewable energy • Providing economic feasibility studies for energy-related projects. • Contributing to community service in raising awareness related to energy and its efficient use
7	Communications and Electronics Engineering	• Holding courses, seminars and workshops in the field of wireless and cellular networks. • Providing technical solutions and engineering consultations related to communications systems. • Providing technical solutions in the fields of smart systems and the Internet of Things.

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