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College of Engineering Electrical Engineering (EE) Department

جامعة شقراء
Shaqra University

Assis. Prof. Dr. Khaled Saleh
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Praise be to Allah who taught us with the pen and taught the man what he didn't know, and peace and blessings of Allah be upon the most honorable among His prophets and messengers, our Prophet Muhammad, Prayers and Peace be upon him, his family, and companions : The College of Engineering is keen to ensure that its outputs are in line with the vision of the Kingdom of Saudi Arabia 2030 to constitute a basic pillar of the labor market in engineering disciplines and to be distinguished in the field of scientific research and community service for the benefit of the region and the nation. Currently, the College has three effective academic programs: electric, mechanical and civil engineering, with a variety of specialized tracks. We seek an academic accreditation from the local NCAAA and the International ABET organizations for each of these programs in different tracks, in addition to our serious desire to expand in specialization which is in line with the national vision of the Kingdom as the college covers a wide geographical range that includes many of the provinces and populated centers and because it has educational facilities equipped with the latest technology and the presence of a distinguished calibers of faculty members May All Allah bestow His Blessings and Mercy upon you

Assoc. Prof. Ali Al-Otaibi
Vice Dean for Educational Affairs,
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The Vice Deanship for Academic Affairs plays a key role in ensuring the quality and progress of the educational process at the College of Engineering. Our mission is to supervise and enhance all academic activities to provide students with a stimulating learning environment that supports creativity, innovation, and excellence.

The Vice Deanship oversees several vital units, including Academic Advising, Admission and Registration, Student Clubs and Activities, Curriculum and Study Plans, Graduate Studies, and Basic Engineering Sciences. Together, these units work to ensure the smooth implementation of academic programs and the continuous development of teaching and learning practices.

We are committed to preparing distinguished graduates equipped with the knowledge, skills, and ethical values required to succeed in a competitive and evolving engineering environment.

Shaqra University

Assoc. Prof. Mansoor Alruqi
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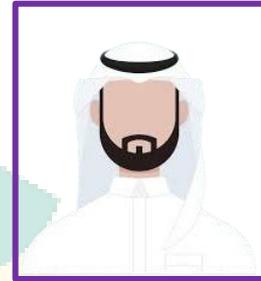


The Vice Deanship for Development and Research seeks to advance the College of Engineering through excellence in research, innovation, quality assurance, and community engagement. Our mission is to foster a culture of continuous improvement that supports the college's strategic goals and strengthens its contribution to national and global development.

We focus on empowering faculty and students to engage in impactful research, enhance academic quality, and implement evidence-based strategic planning. The Vice Deanship also supervises key units, including Scientific Research, Quality Assurance, Strategic Planning, Statistics, Student Training, Skills Development, Facilities and Equipment, Alumni Affairs, Community Service, and Scholarships.

Through collaboration, innovation, and commitment to excellence, we aim to build a sustainable environment that encourages creativity, advances knowledge, and supports societal and industrial needs. We welcome collaboration with all partners who share our vision for continuous development and academic distinction.

Dr. Saud Al-Otaibi
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It is impossible to imagine modern life without electricity. It powers nearly every aspect of our daily activities, from simple household tasks to complex industrial and technological operations. Electrical engineers play a vital role across all sectors—from power generation and transmission to communications and advanced electronics—contributing to the design and development of countless systems such as telecommunication networks, computers, and electric devices.

In the Kingdom of Saudi Arabia, the rapid growth of infrastructure and technology over the past decades has underscored the crucial role of electrical engineers. As the Kingdom moves forward toward achieving Vision 2030, the demand for skilled professionals continues to rise.

Since its establishment, the Department of Electrical Engineering at Shaqra University has been committed to preparing qualified engineers equipped with strong theoretical and practical foundations to meet national and global challenges. The Bachelor of Science in Electrical Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET and has also received full program accreditation from the National Center for Academic Accreditation and Evaluation (NCAAA).

Brief on the EE Program

The College of Engineering (CoE) was established in 1429 AH (2008 AD) with a mission to provide high-quality education and research that serve the community and strengthen its partnership with industry. The Electrical Engineering (EE) program has been offered since the college's establishment, with new admissions accepted in the first semester of each academic year. Graduates have successfully completed the program since its inception, excelling in both governmental and private sectors across various engineering and technical fields.

The EE program provides comprehensive knowledge in electrical power and communication systems and fosters a university environment that encourages creativity, high performance, and the development of advanced technical and practical skills. With a team of experienced faculty members—professors, associate professors, and assistant professors—the department plays an active role in community development and contributes to achieving Saudi Vision 2030. Graduates are well prepared to excel in both governmental and private sectors within various engineering and technical fields.

In 2019/2020, The EE program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs. In September 2024, it also received full national accreditation from the Education & Training Evaluation Commission (ETEC), represented by the National Center for Academic Accreditation and Evaluation (NCAAA), valid until December 2027.

College Vision

“Leadership locally and internationally in the fields of engineering education, innovative research and knowledge dissemination”.

College Mission

“Preparing competitive engineering cadres to keep pace with the continuous development in the engineering field, supporting scientific research and strengthening community partnership to contribute effectively to the sustainable development of society”.

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Program Vision

“To be a distinguished Electrical Engineering Department that provides quality education, innovative research, and robust solutions to industry and local community that meets the Saudi Vision 2030”.

Program Mission

“Providing distinguished education and scientific research to keep pace with developments in the field of electrical engineering to prepare competitive engineering cadres capable of solving industry and community problems”.

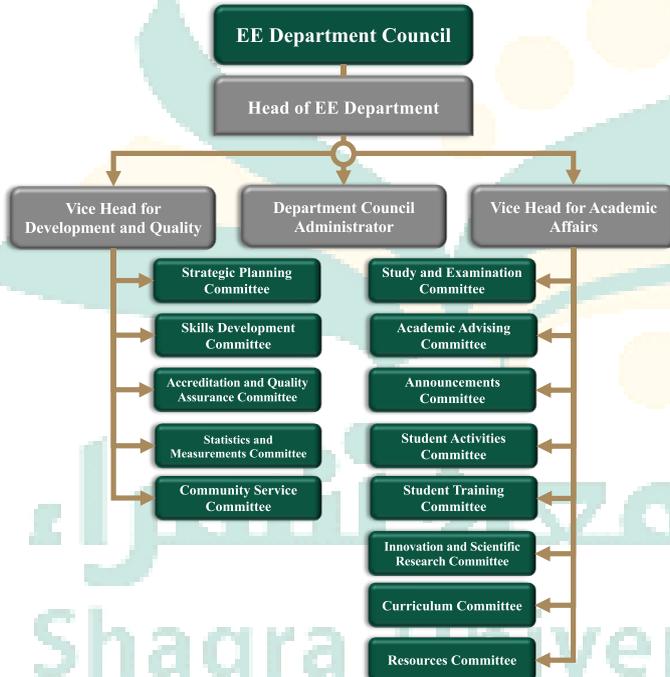
Strategic Goals of College of Engineering

	Strategic goals of College of Engineering
1	Developing the efficiency and effectiveness of the organizational and administrative environment in the college and planning programs to achieve high levels of quality
2	Continuous improvement of the skills and capabilities of faculty members and their motivation.
3	Graduating distinguished students equipped with scientific theories, practical and interactive skills, and creative and competitive capabilities to cope with changes in the labor market.
4	Enhancing effective community partnerships and community service in the engineering fields.
5	Directing the scientific research to meet the development requirements in the Kingdom of Saudi Arabia and linking the research topics to the society needs.
6	Improving infrastructure and support services

Strategic Goals of EE Program

	Strategic goals of EE Program
1	Developing the electrical engineering program by advancing the quality and efficiency of teaching and learning.
2	Continuous development of the skills and capabilities of the faculty members in the electrical engineering program and motivating them.
3	Graduating distinguished students equipped with scientific theories, practical and interactive skills, and creative and competitive capabilities to cope with changes in the labor market.
4	Developing the local community by enhancing the community partnerships in the field of electrical engineering.
5	Directing the scientific research to meet the development requirements in the Kingdom of Saudi Arabia and linking the research topics to the society needs.

Organizational Chart



Organization Structure of the EE Program

Program Educational Objectives (PEOs)

The following Program Educational Objectives (PEOs) describe the expected achievements of Electrical Engineering graduates within a few years after graduation.

PEO1	Graduates will build upon their strong foundation in electrical engineering principles to establish themselves as competent professionals who develop and implement innovative solutions addressing technical and societal needs.
PEO2	Graduates will advance into roles that require effective teamwork, leadership, and communication across multidisciplinary and multicultural environments.
PEO3	Graduates will demonstrate a commitment to ethical professional practice, sustainability, and social responsibility through their contributions to organizations and communities.
PEO4	Graduates will engage in lifelong learning through professional development, certification, advanced studies, or active participation in professional societies to enhance their expertise and career growth.

Program Learning Outcomes (PLOs)

The Electrical Engineering Program has approved and announced the PLOs that support the Program Educational Objectives (PEOs). The attainment of these outcomes prepares graduates to enter the professional practice of engineering. Our program adopted the NCAA and ABET outcomes as the program student's outcomes.

The EE program must demonstrate that graduates should satisfy the following:

For NCAA

Learning Domains	EE Program Learning Outcomes	ABET SOs
1- Knowledge and Understanding. The student will acquire:	K1. The student will be able to demonstrate comprehensive knowledge of language, mathematics, and science necessary for an advanced understanding of the theories, principles, concepts, axioms, and terminology in electrical engineering.	SO1
	K2. The student will be able to engage in lifelong learning by acquiring knowledge necessary for specialized understanding and conducting research on emerging advances in electrical engineering.	SO7

2- Skills. The student will be able to:	S1. The student will be able to design systems, components, or processes that meet desired needs by applying integrated theories, principles, concepts, and creativity, with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	SO2
	S2. The student will be able to practice experimental investigation related to the electrical engineering topics and theories using necessary tools, machines, materials, devices and software.	SO6
	S3. The student will be able to apply the underlying concepts, principles and theories to solve engineering problems.	SO1
	S4. The student will be able to communicate effectively with a range of audience in various ways to demonstrate an understanding of theoretical knowledge, imparting knowledge, specialized skills and complex ideas.	SO3
	S5. The student will be able to apply mathematical operations, and use advanced techniques and tools for both solving complex electrical	SO1

	engineering problems, and supporting specialized research and projects.	
3- Values. The student will be able to:	<p>V1. The student will be able to function effectively on a team, either as a cooperated member, or as a flexible and effective leader who creates a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.</p>	SO5
	<p>V2. The student will be able to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p>	SO4
	<p>V3. The student will be able to use engineering judgement to take logical decisions in work or learning contexts supported by evidences based on analyzing and interpreting information.</p>	SO6

For ABET

- SO1:** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- SO2:** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- SO3:** An ability to communicate effectively with a range of audiences.
- SO4:** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- SO5:** An ability to function effectively on a team, whose members together provide leadership, creates a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- SO6:** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- SO7:** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Admission and Registration Rules

I. Admission Overview

The Electrical Engineering program at Shaqra University welcomes students who show strong academic ability, good character, and readiness for engineering studies. All applications are completed online through the Unified Admission Portal: <https://www.rbu-admit.edu.sa>

II. General Admission Requirements

To apply for the Electrical Engineering program, you must:

- Have a **high school diploma (science track)** or equivalent from Saudi Arabia or abroad.
- The diploma must be **no older than five years**.
- Be **medically fit** and have **no previous dismissal** from any university.
- Pass both national tests:
 - **Qudrat** (General Aptitude Test)
 - **Tahsili** (Achievement Test)
- If you are currently working, submit an **official approval letter** from your employer.

Admission Score

To qualify, your **composite score must be at least 76%**, calculated as:

- 30% from your high school GPA
- 30% from the Qudrat test
- 40% from the Tahsili test

III. Admission for International Students

International applicants follow the same rules as Saudi students, with some additional requirements:

- You must be **at least 16 years old** and live **outside Saudi Arabia**.
- Hold a **valid passport** (minimum six months validity).
- You must **not already hold Saudi residency** or another Saudi scholarship.
- All certificates and IDs must be **authenticated by the Saudi Embassy** or the Saudi Cultural Mission in your country.
- You must **pass a medical examination**.

Applications are submitted through the “**Study in Saudi Arabia**” portal:
<https://studysaudi.moe.gov.sa>

IV. Enrollment and Continuation in the Program

Preparatory Year

All students begin with a **preparatory year** that strengthens English, math, computer, and communication skills.

To join the Electrical Engineering program after the first year:

Current Plan

- Complete all preparatory courses.
- Achieve a **minimum GPA of 3.50 / 5.00**.

Developed Plan (2024–2025 onward)

- Complete all preparatory courses.
- Achieve a **GPA of at least 2.75 / 5.00**.
- Obtain a **minimum IELTS score of 3.0** (or an equivalent English test score).

After meeting these conditions, admission to Electrical Engineering depends on GPA ranking and available seats in the department.

V. Transfer and Visiting Students

Transfer from Other Universities

You can transfer to Shaqra University if:

- You are studying at a **recognized university**.
- Your major is similar to the one you're applying for.
- You meet the GPA and departmental requirements.
- At least **60% of your degree credits** will be completed at Shaqra University.
- The program's online content must not exceed Shaqra's standards.

Exceptions can be approved by the **Students' Academic Issues Committee** in special cases.

Transfer Within Shaqra University

Students can transfer between colleges, departments, or majors if:

- They have completed **at least one semester**.
- They are currently enrolled and have a **GPA of 3.00 or higher**.
- Space is available in the desired program.

Transfer of Courses

- Courses can be transferred if **70% or more of the content matches** Shaqra's course.
- Transferred courses appear on the transcript but **do not affect GPA**.
- Students must complete **at least 60% of total credits** at Shaqra University.

Visiting Students

- **External Visitors:** Courses are recorded but not included in GPA.
- **Internal Visitors:** Courses are included in GPA but only allowed for exceptional reasons.

VI. Graduation Requirements

Total Credit Hours

To graduate, a student must:

- Complete all courses in the study plan.
- Have a **minimum GPA of 2.75 / 5.00**.
- If GPA is below 2.75, the department may assign extra courses to help improve it.
- To earn a Bachelor of Science in Electrical Engineering:
 - **Current Plan:** 170 credit hours (including completing the 32 credit hours in the first year).
 - **Developed Plan:** 167 credit hours (including completing the 36 credit hours in the first year).

Senior Design Project (SDP)

- The project consists of **two courses (SDP1 & SDP2)**, each worth **2 credit hours**.
- Taken in the **regular semesters (Fall/Spring)**.
- SDP2 requires successful completion of SDP1.
- **Eligibility:**
 - Current plan: after completing **126 hours**.
 - Developed plan: after **115 hours**.

Summer Training Program

Before graduation, students complete an **8-week summer training** in an approved company:

- **Current plan:** after 100 credit hours.
- **Developed plan:** after 161 credit hours.
- The training is supervised and evaluated by both the company and university coordinators.

EE Committees

No.	Committee	Chairman	Members
1	Study and examination	Dr. Waleed Hilmy	1. Dr. Ahmed Hatata 2. Dr. Nasser Mourad 3. Dr .Saud Alotaibi
2	Academic Advising	Dr. Waleed Hilmy	1. Dr. Ahmed Hatata 2. Dr. Nasser Mourad 3. Dr .Saud Alotaibi
3	Curriculum	Dr. Ahmed Hatata	1. Dr. Khaled Saleh
4	Resources	Dr. Morsy Ismail	1. Dr. Khaled Saleh 2. Dr. Waleed Hilmy 3. Dr. Nasser Mourad 4. Dr. Thabet Alzahrani 5. Dr. Ahmed Hatata 1. Dr. Saud Alotaibi

5	Strategic Planning	Dr. Ahmed Hatata	<ol style="list-style-type: none"> 1. Dr. Khaled Saleh 2. Dr. Nasser Mourad 3. Dr. Thabet Alzahrani 4. Dr. Waleed Hilmy 5. Dr. Morsy Ismail 6. Dr. Lafi Alnufaie 7. Dr. Mohammed Alghassab 8. Dr. Saud Alotaibi
6	Statistics and Measurements	Dr. Lafi Alnufaie	1- Dr. Nasser Mourad
7	Accreditation and Quality Assurance	Dr. Nasser Mourad	<ol style="list-style-type: none"> 1. Dr. Khaled Saleh 2. Dr. Thabet Alzahrani 3. Dr. Ahmed Hatata 4. Dr. Waleed Hilmy 5. Dr. Morsy Ismail 6. Dr. Mohammed Alghassab 7. Dr. Lafi Alnufaie 8. Dr. Saud Alotaibi
8	Innovation and Scientific Research	Dr. Mohammed Alghassab	<ol style="list-style-type: none"> 1. Dr. Thabet Alzahrani 2. Dr. Morsy Ismail 3. Dr. Lafi Alnufaie

9	Student Activities	Dr. Morsy Ismail	1. Dr. Waleed Hilmy 2. Student 1 1. Student 2
10	Skills Development	Dr. Nasser	1. Dr. Lafi Alnufaie 2. Dr. Morsy Ismail 1. Student 1
11	Student Training	Dr. Thabet Alzahrani	1. Dr. Morsy Ismail 2. Dr. Mohammed Alghassab
12	Announcements	Dr. Waleed Hilmy	1. Dr. Saud Alotaibi
13	Community service	Dr. Saud Alotaibi	1. Dr. Morsy Ismail 2. Student 1 1. Student 2

جامعة شقراء
Shaqra University

Staff Members

The Electrical Engineering (EE) program recruits faculty members with MSc/Ph.D. degrees from highly reputable international universities with experiences in teaching from different countries. The department has nine faculty members: Two Professors, Four Associate Professors, and Three Assistant Professors.

1- Assis. Prof. Khaled Saleh (college Dean of Students' Affairs)

Degree	Discipline	Institution	Year
Ph.D.	Electrical Engineering / Control systems	Arizona State University (Tempe), Ira A. Fulton Schools of Engineering	2017
M.Sc.	Electrical Engineering	University of Colorado at Denver	2010
B.Sc.	Electrical Engineering	King Saud University	2006

2- Assis. Prof. Dr. Saud Alotaibi (Head of Department)

Degree	Discipline	Institution	Year
Ph. D.	Electrical and Electronics Engineering	University of Lancaster, UK	2023
M. Sc.	Electrical and Electronics Engineering	University of Nottingham, UK	2016
B. Sc.	Electrical Power Engineering	Taif University, KSA	2012

3- Assoc. Prof. Lafi Al Nufaie

Degree	Discipline	Institution	Year
Ph. D.	Electrical power and machines	University de Reims-France	2012
M. Sc.	Electrical power and machines	University de Reims-France	2009
B. Sc.	Electrical power and machines	University de Reims-France	2006

4- Assoc. Prof. Mohammed Ahmed Al Ghassab

Degree	Discipline	Institution	Year
Ph.D.	Electrical Engineering	Oakland University	2018
M.Sc.	Electrical Engineering	Gannon University	2013
B.Sc.	Electrical Engineering	Hail University	2006

5- Assis. Prof. Thabet Elzahrani

Degree	Discipline	Institution	Year
PH. D.	Electrical and Electronics Engineering	University of Sheffield, UK	2023
M. SC.	Electrical and Electronics Engineering	University of Nottingham, UK	2016
B. SC.	Electrical Power Engineering	Qassim University, KSA	2012

6- Prof. Nasser Mourad A. Elsaied

Degree	Discipline	Institution	Year
PH. D.	Signal processing	Mcmaster University (CANADA)	2009
M. SC.	Communications and electronics	Assuit University (EGYPT)	2002
B. SC.	Communications and electronics	Assuit University (EGYPT)	1997

7- Prof. Ahmed Youssef Hatata

Degree	Discipline	Institution	Year
Ph.D.	Electrical Power and Machines	Mansoura University	2012
M.Sc.	Electrical Power and Machines	Mansoura University	2007
B.Sc.	Electrical Power and Machines	Mansoura University	2002

8- Assoc. Prof. Morsy Ahmed Morsy

Degree	Discipline	Institution	Year
Ph. D	Electronics and Communications	Ain Shams University	2013
M. Sc.	Electronics and Communications	Ain Shams University	2007
B. Sc.	Electronics and Communications	Ain Shams University	2000

9- Assoc. Prof. Waleed Saad Fouad Helmy

Degree	Discipline	Institution	Year
Ph.D.	Electronics and electrical communications	Menofia university	2013
M.Sc.	Electronics and electrical communications	Menofia university	2008
B.Sc.	Electronics and electrical communications	Menofia university	2004

Engineering Club for Development and Innovations, Electrical Engineering Department

Under the patronage of his Excellency the Dean of the College of Engineering in Dawadmi, the Engineering Club was established in 1440 Hijri. The club is also a link between the external environment and university students.

Goals of the club:

- 1- Adopting the students' innovations and inventions and helping them to accomplish them.
- 2- Holding periodic workshops to develop students' abilities to innovate.
- 3- Qualifying outstanding students to participate in local and international competitions.

Community Service and Environment Development Sector

Community service and environmental development is one of the main objectives of the Faculty of Engineering and then the Department of Electrical Engineering, and therefore the department seeks to communicate continuously with all community organizations (factories - companies - education - civil society organizations) to affect them and affected and to be the Faculty of scientific leadership, research and scientific reference for these bodies, And that these bodies have the conviction of the importance of the college and its effective role in the service of society and the development of the environment.

Activities of the Department in Community Service:

Believing in the importance of the role of the Department in spreading cultural awareness based on sound scientific foundations among the members of the community, the Department has carried out educational activities carried out by selected members of the faculty and the participation of students, where the various activities offered in various places, including but not limited to:

Activities Implemented	Brief Description*
Secondary School Students' Visiting	His Excellency the Dean of the College, Dr. Khalid bin Saleh, and a group of faculty and staff members at the College of Engineering in Dawadmi received the students of Dawards National School and their supervisors, urging the college administration to communicate with the surrounding environment to serve the country. Fifteen distinguished students from Edwards School were received for their desire to join the college and learn about its various departments. The concept of engineering was defined for students by the Dean of the college, and the supervisors of the engineering departments gave a summary of each department of the college and the fields of work for these departments. The students also visited some laboratories of

different specialties. This was part of the precautionary measures to ensure the safety of students

No off attendance: 10 students from EE department
Date: 15/03/2025



Participation of the department and the college in the Shell Eco Marathon-Asia Pacific and Middel

The Electrical Engineering Department team at the College of Engineering at Shaqra University participated in the Shell Eco-marathon in Qatar from Feb. 8 to Feb. 13, 2025, with an innovative 150 cc car that operates on an innovative electronic system to save fuel consumption and reduce environmental pollution. The Shaqra University team participated with 79

**East international
competition in Qatar 2025**

teams from various countries in Asia Pacific and Middle East for the first time in the history of Shaqra University. The car passed 110 test points and was among the first ten cars nominated to participate in this marathon, of the Urban Concept fuel consumption type.

No off attendance: 8 students from EE department

Date: 8-14/02/2025



Program Laboratories

The laboratories serve the needs of the courses offered by the power and communication tracks.
They are:

- 1- Power Electronics Lab
- 2- Adjustable Speed Drivers Lab
- 3- Power Systems Lab
- 4- Electromechanical Energy Conversion lab
- 5- Logic Design Lab
- 6- Electronic Circuits lab
- 7- Microprocessor Lab
- 8- Electrical Circuits Lab
- 9- Automatic Control Lab
- 10- Measurements Lab
- 11- Antenna, Radio Frequency Lab
- 12- Microwave Engineering lab
- 13- Advanced Communications Lab
- 14- Optical Fiber Communications Lab
- 15- Computer lab

Antenna, Radio frequency (RF) & microwave engineering lab



Power electronics lab



Adjustable speed driver's lab



Electromechanical energy conversion lab



Logic design & Electronic circuits lab



Automatic control & Measurements lab



Microprocessor lab



Electrical circuits lab



Electronics (2) Lab



Advanced communications & Optical Fiber Communications lab



Analog and Digital communications lab

