COLLEGE OF

ENGINEERING

Accredited ABET Engineering Accreditation Commission NAAB®

UNIVERSITY OF BAHRAIN
BRIDGE TO THE FUTURE

His Majesty

King Hamad bin Isa Al-Khalifa

King of the Kingdom of Bahrain

His Royal Highness

Prince Salman bin Hamad Al-Khalifa

Crown Prince and and Prime Minister

CONTENT..

DEAN'S MESSAGE

The College of Engineering at UOB is the leader in higher engineering education in the kingdom. This is apparent through the quality and quantity of the college's graduates, programs, faculty and facilities besides the confidence given to the college and its programs by local and international quality assurance and accreditation authorities. The realization of this status is the result of our relentless determination to revolutionize the engineering sector in Bahrain and the world, and to make it a major tributary to knowledge-based economy. Our mission is to help our students' become engineers who are highly talented, technically capable, innovative, creative and able to lead towards positive change in their immediate and global surroundings. And to achieve that we have created robust education, research and community service programs.

Dr. Haifa Bint Ebrahim Al-Khalifa

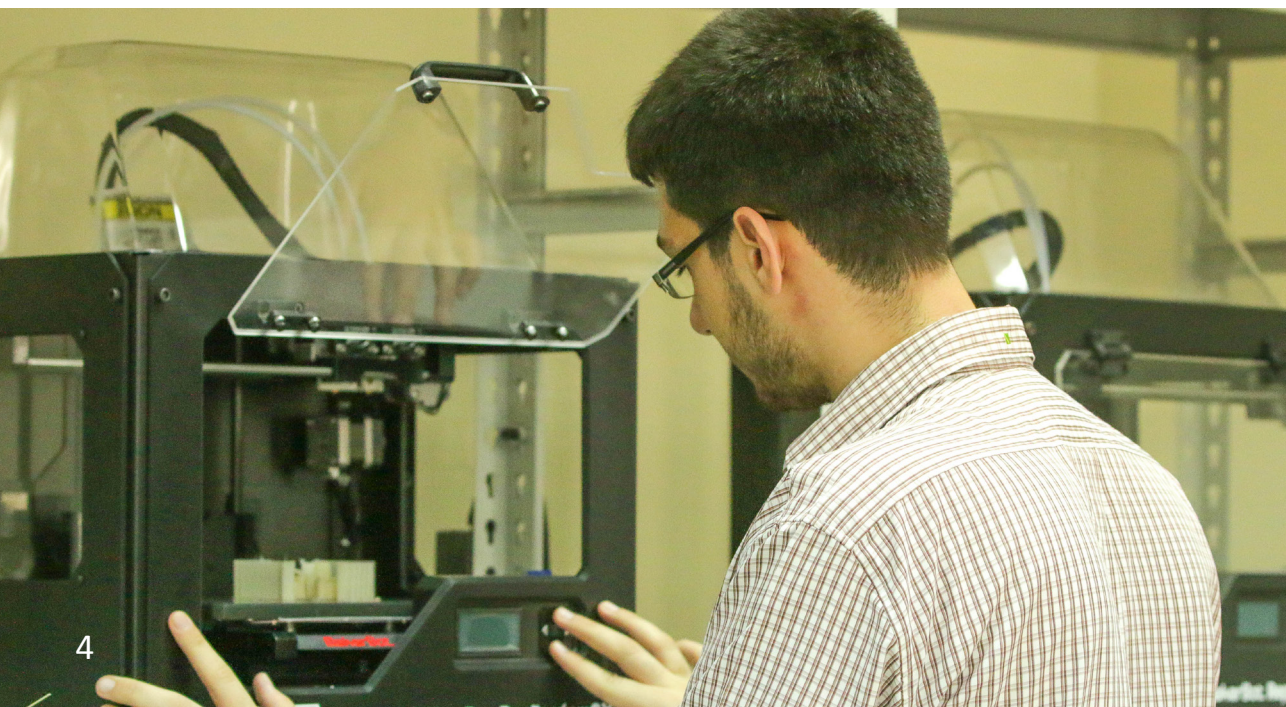
THE COLLEGE

The College of Engineering at the University of Bahrain owes its roots to the Gulf Technical College, which was established in 1968 and later became the Gulf Polytechnic in February 1981 and consisted of the Colleges of Engineering and Business Administration. In 1986, the Amiri Decree No.(12) was issued to establish the University of Bahrain by a merger of the Gulf Polytechnic and the Bahrain University College. Since then, the college continued to grow in the numbers of programs and students; currently around 2400 students (2025-2026), coming from diverse nationalities and ethnicities, study at the college.

The College of Engineering consists of five departments, namely, Architecture and Interior Design, Chemical Engineering, Civil Engineering, Electrical and Electronics Engineering and Mechanical Engineering. Some departments are located in Isa Town campus and others in Sakhir campus.

Accredited
ABET
Engineering Accreditation Commission

NAAB®



DEPARTMENTS

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN

The Department of Architecture and Interior Design is unique in the College of Engineering. Its areas of study—architecture, interior design, and landscape architecture—are recognized as creative, artistic, socially conscious, and design-based disciplines, bridging the realms of arts and engineering.

Our graduates are trained to think critically, imagine, and create purposefully built environments, ranging from buildings to interior spaces. Their education encompasses philosophies, histories, social sciences, construction engineering, management, and professional practice. As a result, they are well-prepared for promising career opportunities as architects, interior designers, project managers, and other roles related to building design and construction.

The fields of architecture and interior design are highly esteemed professions, ideal for individuals who appreciate creativity, imagination, complexity, and the challenge of innovation. In these disciplines, clients are willing to invest significantly in the expertise of professionals who can realize their visionary aspirations.

With qualifications in Architecture and Interior Design, graduates are equipped to work in architectural firms, government agencies responsible for built environments, or establish their own practices following the acquisition of appropriate work experience. Our department is renowned for offering one of the finest architectural education programs in the region.

THE DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN OFFERS THE FOLLOWING PROGRAMS:

- Bachelor of Architecture
- Bachelor of Interior Architecture
- Bachelor of Landscape Architecture (currently suspended)
- Master of Architecture-M. Arch
- Doctor of Philosophy (PhD) in Architecture
- Associate Diploma (Exit Option) in Architecture, Interior Architecture, and Landscape Architecture.

DEPARTMENT OF CHEMICAL ENGINEERING

The Department of Chemical Engineering was established in October 1992. The Department offers two four-year undergraduate programs; a Bachelor of Science (B.Sc.) degree in Chemical Engineering and a Bachelor of Science (B.Sc.) degree in Instrumentation & Control Engineering. Both programs are accredited by the Accreditation Board for Engineering and Technology (ABET).

The department also offers postgraduate programs; Master of Science (M.Sc.) in Chemical Engineering, Master of Science (M.Sc.) in Sustainable Energy Transition Systems and a Doctor of Philosophy (Ph.D.) in Chemical Engineering. Further information about postgraduate programs is available in the graduate studies brochure.

The Department is dedicated to excellence in teaching, research and community service. Each program blends flexibility, depth, breadth, and hands-on-experience to prepare students for a variety of educational and professional challenges. Graduates of these programs gain employment in a variety of industries including petroleum production and refining; petrochemicals; gas processing; water desalination and treatment; metal production and processing facilities; and industrial automation, control, and solutions.

THE CHEMICAL ENGINEERING DEPARTMENT OFFERS THE FOLLOWING PROGRAMS:

- Bachelor of Science (B.Sc.) degree in Chemical Engineering.
- Bachelor of Science (B.Sc.) degree in Instrumentation & Control Engineering.
- Master of Science (M.Sc.) degree in Chemical Engineering.
- Master of Science (M.Sc.) degree in Sustainable Energy Transition Systems.
- Doctor of Philosophy (Ph.D.) degree in Chemical Engineering.

DEPARTMENT OF CIVIL ENGINEERING

The Department of Civil Engineering at UOB has one of the largest student enrollments in the College of Engineering. This underscores its status as one of the most sought-after academic units in the college and showcases its strong reputation both locally and regionally. This esteemed reputation has been earned through the ongoing enhancement of the Civil Engineering Program, ensuring it remains aligned with the latest methods, applications, and technologies while providing individual attention to our students. Furthermore, the exceptional standards and achievements of our alumni significantly contribute to this distinguished reputation.

Our graduates are empowered with the ability to harness cutting-edge technology, enabling them to analyze and engineer diverse Civil Engineering problems. They are poised to take an active role in construction management, pioneering inventive solutions in transportation and highway engineering and crafting environmentally sustainable designs for water resources, wastewater, and water supply projects.

Department Programs

B.SC. IN CIVIL ENGINEERING WITH THE OPTION TO CHOOSE ONE OF THE FOLLOWING TRACKS:

- Structural Engineering Track
- Construction Engineering Track
- General Civil Engineering Track

M.SC. IN CIVIL ENGINEERING WITH THE OPTION TO SPECIALIZE IN ONE OF THE FOLLOWING:

- Structural Engineering
- Transportation and Traffic Engineering
- Water Resources and Environmental Engineering
- Geomatics Engineering

PHD IN CIVIL ENGINEERING

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

The Department of Electrical and Electronics Engineering is a well-established department in the College of Engineering, which has been part of the University of Bahrain since its foundation in 1986. The Department offers programs at both undergraduate and postgraduate levels designed to serve the local market in Bahrain and in the region, offering courses that adopt the continuous technical developments in the electrical, electronics and communications engineering fields. The programs are designed to give the students a well-established theoretical foundation along with excellent hands-on experience. Ultimately, we aim have our students gain lifelong learning skills, foster ethical engineering practices and to develop soft skills, essential for engineers in the current and future markets.

Our mission is to graduate creative engineers who can progress in the various fields of Electrical, Electronics and communications Engineering. We aim for excellence in teaching, effective participation in the production of knowledge through scientific research, and strong links with the local community.

The Department pays special attention to strengthening the students practical capabilities, a skill believed to be essential for any engineer. Therefore, the department hosts 11 well-equipped labs that serve all the courses offered in the programs. Moreover, the department has an electronics components store to support the student's project work in various courses as well as the senior projects in the B.Sc. programs.

Our academic team is highly qualified with diverse specializations that includes electric machines, renewable energy systems, power systems and reliability, power quality issues, power electronics, digital integrated circuits, signal processing, digital systems, computer engineering, communications, microwave engineering, satellite communications, neural networks, image processing, and intelligent control systems.

The department has an established quality assurance and accreditation record positively affecting the quality of teaching and research. Both B.Sc. programs offered by the department (the B.Sc. in Electrical and Electronics and Communications Engineering, respectively) were first accredited by the Engineering Accreditation Commission (EAC) of ABET in 2008 (http://www.abet.org), and later reaccredited by the EAC for the period from 2014 – 2020.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

THE DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING OFFERS THE FOLLOWING PROGRAMS:

- B.Sc. in Electrical Engineering
- B.Sc. in Electronics and Communications Engineering
- M.Sc. in Artificial Intelligence Systems
- M.Sc. in Telecommunications & Networking Engineering.
- M.Sc. in Renewable Energy Engineering
- M.Sc. in Power Systems Engineering
- Ph.D. in Electrical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering follows University of Bahrain mission, through seeking excellence in teaching and learning. The roots of the Mechanical Engineering Department go back to 1968 when the first batch of mechanical engineering students were admitted to Gulf Technical College, the college which developed later to form one of the two pillars of UOB in 1986. Since that time the Mechanical Engineering Department at UOB has kept pace with current relevant technologies and the demand of the industry by introducing changes to the curriculum to deliver an educational program of study that prepares its graduates to become intellectual leaders in industry, the governmental sector, and academia.

The Mechanical Engineering Department offers various programs at undergraduate and postgraduate levels, which cover various mechanical engineering disciplines, namely: Thermo-fluids, Solids Mechanics, Manufacturing, and Engineering Management. In addition, the undergraduate program is accredited by the Accreditation Board for Engineering and Technology (ABET).

The graduates of our programs are well grounded in scientific, mathematical, and technical knowledge, and they also develop the ability to analyze, synthesize, communicate and design engineering systems through their immersion in problems-based activities and through general education courses. Furthermore, the department is keen to encourage students to participate in local and international professional societies, public, and private sectors through seminars, workshops, conferences, and field trips to enhance their professional development.

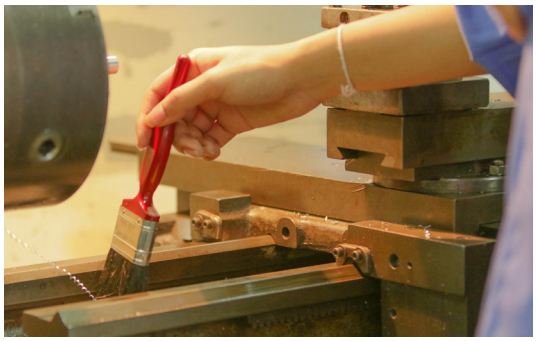
THE MECHANICAL ENGINEERING DEPARTMENT OFFERED THE FOLLOWING PROGRAMS:

- Bachelor of Science in Mechanical Engineering.
- Master of Science in Mechanical Engineering.
- Master of Science in Engineering Management.
- PhD in Mechanical Engineering.
- PhD in Engineering Management.

UNDERGRADUATE INFORMATION

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN

BACHELOR OF ARCHITECTURE



The Bachelor of Architecture program at the College of Engineering is a unique program designed to develop creativity, technical proficiency, and critical thinking. Students engage in a mix of theoretical and practical courses, with the focus of applying this knowledge in the core design courses.

This enables students to address complex architectural challenges and contribute to the built environment responsibility. The program emphasizes social, environmental, technical, and historical aspects, providing students with an integrated approach to design. Since 2015, the five-year program has met the rigorous standards of the National Architectural Accrediting Board (NAAB) and obtained international certification, allowing students to pursue learning and working opportunities worldwide.

The 2024 curriculum consists of 167 credit hours, including 11 credit hours for University Requirements, 9 credit hours for College Requirements, 3 credit hours for Major Supporting Courses, 120 credit hours for Major courses, 12 credit hours for Major Electives, 9 credit hours for General Studies Electives, and 3 credit hours for industrial training.

THE CURRICULUM OF BACHELOR OF ARCHITECTURE IS COMPOSED OF 167 CREDIT HOURS:

Program Component	Course Type	Credit Hours
University Requirement	UR	11
College Requirement	CR	9
Major Requirement	MR	120
Major Elective	ME	12
Major Support Requirement	MSR	3
Minor Requirements	Minor	--
Industrial Training	MRT	3
General Studies Elective	GSE	9
Total		167

BACHELOR OF INTERIOR ARCHITECTURE

In addition to this, the Interior Architecture program is also an offered degree which is all about equipping the future Interior Architects with the needed knowledge for creating spatial experiences for the targeted users. This degree aims to graduate students with skills that are required for the presentation of these spatial experiences that are created through a thorough understanding of the users' needs, quality of interior environments, structure, manufacturing, and construction.

With the Kingdom's of Bahrain vision 2030, the goal of the strategy is to improve the infrastructure, industry, housing and so on. Interior Architecture as a profession is needed as the construction sector in the Kingdom of Bahrain is growing. Even through the Pandemic, the construction sector kept resilient.

The University of Bahrain started introducing Interior Design as a Diploma in 1998, and then the Interior Design as a BSc degree started with in 2002 and reviewed and approved in 2014 and 2016.

THE CURRICULUM OF BACHELOR OF INTERIOR ARCHITECTURE IS COMPOSED OF 168 CREDIT HOURS:

Program Component	Course Type	Credit Hours
University Requirement	UR	11
College Requirement	CR	6
Major Requirement	MR	132
Major Elective	ME	15
Major Support Requirement	MSR	3
Minor Requirements	Minor	--
Industrial Training	MRT	1
General Studies Elective	GSE	--
Total		168

BACHELOR OF LANDSCAPE ARCHITECTURE

The Bachelor of Landscape Architecture at the University of Bahrain is a 4-year program and offers 130 credits to complete with 98 credit hours Major Requirements, 11 credit hours University Requirements, 9 credit hours College Requirements, 6 credit hours Major Electives, 6 credit hours General Studies Electives and 1 credit hour Training.

The program introduces the basics and fundamentals of design and graphics in the first year. Afterwards, it offers a set of core courses in Landscape Architectural Design supported by a series of other courses to provide the necessary knowledge, skills, values and attitudes with emphasis on culture, history, geography and environment unique to the region and Bahrain.

The program exposes the students to the knowledge of plants, materials and technologies, theories and philosophies, history, services, computer technologies and sustainable practices and relevant skills. Subsequently, it engages them in research to generate a design program to produce a project report. Based upon this project proposal and experience gained in the 3 years of design learning, the students produce a final design project to demonstrate their abilities to conceptualize, articulate, and detail a landscape setting of relevance to Bahrain that can be practically implemented.

THE CURRICULUM OF BACHELOR OF LANDSCAPE ARCHITECTURE IS COMPOSED OF 130 CREDIT HOURS:

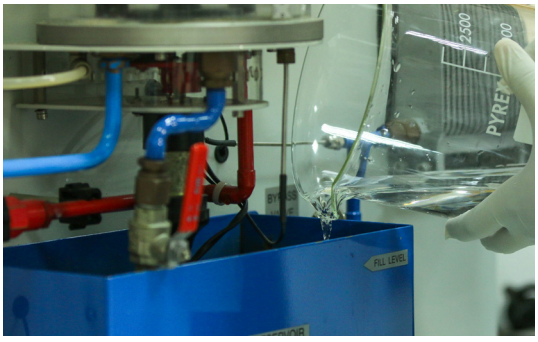
Program Component	Course Type	Credit Hours
University Requirement	UR	11
College Requirement	CR	9
Major Requirement	MR	97
Major Elective	ME	6
Major Support Requirement	MSR	--
Minor Requirements	Minor	--
Industrial Training	MRT	1
General Studies Elective	GSE	6
Total	-	130

DEPARTMENT OF CHEMICAL ENGINEERING

B.SC. IN CHEMICAL ENGINEERING

The B.Sc. in Chemical Engineering is a comprehensive 134-credit hour program spanning eight semesters. It equips students with the necessary skills and knowledge for a successful chemical engineering career. The curriculum begins with foundational courses in mathematics, statistics, physics, chemistry, and computer programming. Building upon this base, students delve into core chemical engineering principles, including thermodynamics, fluid mechanics, heat and mass transfer, and reaction engineering. Advanced topics cover separation processes, process modeling and simulation, process control, and plant design, culminating in a Capstone Plant Design project.

Practical experience is emphasized through required two-month summer internships in relevant industries after the third year. Hands-on learning continues in Chemical Engineering Labs I & II, focusing on thermodynamics, unit operations, reaction engineering, and process control. Students develop teamwork and independent learning skills through senior design projects in their fourth year, which include Design Project I and Design Project II. Additionally, field trips to industrial companies provide real-world insights.



In their final year, students specialize in either Process Systems (emphasizing process design, optimization, and control) or Oil and Gas (concentrating on petroleum engineering, refinery operations, natural gas processing, and petrochemicals). Each specialization requires five dedicated major electives, with additional electives available for further focus. General education courses in Islamic culture, Arabic, English communication, Bahraini history and citizenship, and human rights round out the curriculum, fostering communication skills and ethical awareness.

THE CURRICULUM OF CHEMICAL IS COMPOSED OF 134 CREDIT HOURS:

Program Component	Course Type	Credit Hours
University Requirement	UR	11
College Requirement	CR	28
Major Requirement	MR	62
Major Elective	ME	15
Major Support Requirement	MSR	17
Minor Requirements	Minor	------
Industrial Training (MRT)	MRT	1
Total		134

B.SC. IN INSTRUMENTATION AND CONTROL ENGINEERING

The Bachelor of Science in Instrumentation and Control Engineering is a comprehensive 137-credit-hour program spanning eight semesters. Designed to prepare graduates for careers in industrial process environments, the curriculum emphasizes both theoretical knowledge and practical application within the field of process instrumentation and control engineering.

The program's foundation lies in a robust set of general science courses, including mathematics, statistics, physics, computer programming, and chemistry. Building upon this base, students delve into core engineering sciences, exploring process engineering principles (thermofields), electrical and electronic engineering fundamentals, and the economic considerations of engineering design.

A significant portion of the curriculum is dedicated to instrumentation, measurement, and control systems. Students gain expertise in sensor technology, signal conditioning, data communication, and various process control strategies. Furthermore, a diverse range of elective courses allows for specialization in cutting-edge areas such as safety instrumented systems, virtual instrumentation, digital signal processing, biomedical instrumentation, advanced sensor systems, optimization techniques, advanced process control, and industrial cybersecurity.

Complementing the technical coursework, general education components foster well-rounded graduates, emphasizing Islamic culture, Arabic language, English communication skills, Bahraini history and citizenship, and human rights principles.

Practical experience is integral to the program. Hands-on learning opportunities are provided through dedicated laboratory courses focusing on measurement systems and integrated throughout the curriculum. These labs cover process variable measurement, empirical process modeling, and computer-based automatic process control. Additionally, a mandatory two-month industrial training period, following the third years, immerses students in real-world industrial settings, providing invaluable practical experience. Finally, in their fourth year, students undertake two comprehensive design projects (Design Project I and Design Project II), culminating in a capstone instrumentation and control design project, encourage independent learning, teamwork, and the application of acquired knowledge to solve real-world engineering challenges.

THE CURRICULUM OF INSTRUMENTATION AND CONTROL ENGINEERING IS COMPOSED OF 137 CREDIT HOURS

Program Component	Course Type	Credit Hours
University Requirement	UR	11
College Requirement	CR	28
Major Requirement	MR	68
Major Elective	ME	06
Major Support Requirement	MSR	23
Minor Requirements	Minor	------
Industrial Training ((MRT	MRT	1
Total		137

DEPARTMENT OF CIVIL ENGINEERING

B.SC. IN CIVIL ENGINEERING

The B.Sc. program in Civil Engineering consists of 132-credit hour and is accredited by both the National Authority for Qualification and Quality Assurance of Education and Training (NAQQAET) and the Accreditation Board for Engineering Technology (ABET) in The United States. The program includes the option to choose from one of the following tracks:

- Structural Engineering Track
- Construction Engineering Track
- General Civil Engineering Track

The civil engineering program is designed to provide students with a strong engineering science background that will enable them to tackle technical problems they may encounter in their professional civil engineering careers. Before graduation, each student completes a Senior Project, which involves designing a real-life Civil Engineering Project. This project helps them adapt to practical work in the industry. During this time, students are also required to conduct research and gather information related to their senior project topic. This course allows students to independently carry out a project on a topic they have not previously encountered.

Our program and approach have proven to be successful, as our graduates hold directorial positions in ministries, work as project managers in private construction companies, and own successful construction businesses. Additionally, it is worth mentioning that two of the department's graduates have held ministerial positions in the government of the Kingdom of Bahrain in recent years.

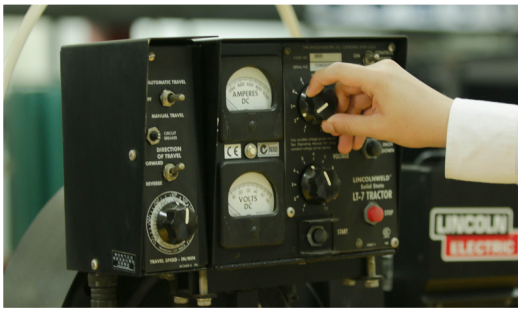
THE CURRICULUM OF CIVIL IS COMPOSED OF 132 CREDIT HOURS:

Program Components

Course Type	CRD
University Requirement (UR)	11
College Requirement (CR)	28
Major Requirement (MR)	78
Major Elective (ME)1	6
Major Support Requirement (MSR)	8
Minor Requirements (Minor)	------
Industrial Training	1
Total Credit (CRD)	132

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

B.SC. IN ELECTRICAL ENGINEERING



The B.Sc. program in Electrical Engineering is an ABET accredited program which dates to 1982 when it was offered by the Gulf polytechnic. The program seeks to provide a broad and solid background in the current theory and practice of electrical machines, energy conversion, power electronics and power systems, including a sound background in math and science.

The required science courses cover basic chemistry and physics, whereas math requirements cover calculus, linear algebra, differential equations, probability and statistics and numerical analysis.

Computer programming skills are provided through an introductory course in programming and a specialized course on computer applications in Electrical Engineering. The program offers the main components of modern curricula. Core courses cover circuit theory, electronic circuits, digital systems, signals and systems, electromagnetics, communications, control systems, power electronics, power systems, electrical machines, and electric drives.

Students are required to select elective courses from one of the following specialization areas:
Energy Conversion - Power Systems

THE CURRICULUM OF B.Sc. in ELECTRICAL ENGINEERING 2022 IS COMPOSED OF 136 CREDIT HOURS:

Program Components

Course Type	CRD
University Requirement (UR)	11
College Requirement (CR)	28
Major Requirement (MR)	67
Major Elective (ME)	12
Major Support Requirement (MSR)	17
Minor Requirements (Minor)	----
MR Industrial Training (MRT)	1
Total Credits (CRD)	136

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

B.SC. IN ELECTRONICS AND COMMUNICATIONS ENGINEERING

The B.Sc. program in Electronics Engineering is an ABET accredited program since 2008. The program title is updated in 2022 to include the communications engineering field. The program seeks to provide a broad and solid background in the current theory and practice of electronics, communications, and computer engineering, including familiarity with basic tools of math and science.

Required science courses cover basic chemistry and physics, whereas math requirements cover calculus, linear algebra, differential equations, probability and statistics and numerical analysis.

Computer programming skills is provided through an introductory course in programming and a specialized course on computer application in electrical engineering. The program offers the main components of modern electronics engineering curriculum. Core courses cover circuit theory, electronic circuits, digital systems, signals and systems, electromagnetics, communications, control systems, power systems and electrical machines.

Students are required to select elective courses from one of the following specialization areas:
Digital System
Applied Electronics
Communication Engineering

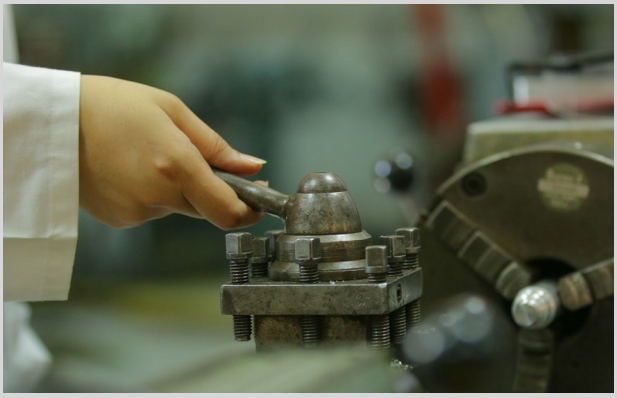
THE CURRICULUM OF B.Sc. in ELECTRONICS AND COMMUNICATIONS ENGINEERING 2022 IS COMPOSED OF 136 CREDIT HOURS:

Program Components

Course Type	CRD
University Requirement (UR)	11
College Requirement (CR)	28
Major Requirement (MR)	67
Major Elective (ME)	12
Major Support Requirement (MSR)	17
Minor Requirements (Minor)	----
MR Industrial Training (MRT)	1
Total Credits (CRD)	136

DEPARTMENT OF MECHANICAL ENGINEERING

B.SC. IN MECHANICAL ENGINEERING



The B.Sc. in Mechanical Engineering program consists of 135 credit hours that is accredited by ABET since 2008.

The program is designed in a way to ensure the student graduates with the following skills:

Communication skills.

Computer skills.

Analyze problems and find solutions

skills.

Basics of Engineering Management.

In addition, the program covers variety of mechanical engineering disciplines, which helps the graduate to increase his/her chances to get a suitable job in the fields of mechanical engineering.

Additionally, graduates of the Mechanical Engineering program are eligible to pursue advanced studies, including master's and doctoral degrees, in fields such as mechanical engineering and engineering management..

THE CURRICULUM OF MECHANICAL IS COMPOSED OF 135 CREDIT HOURS:

Program Components

University Requirement (UR)	11
College Requirement (CR)	28
Major Requirement (MR)	70
Major Elective (ME)1	12
Major Support Requirement (MSR)	13
Minor Requirements (Minor)	------
Industrial Training	1

ADMISSION

The applicants who meet the following requirements will be admitted to the University of Bahrain, College of Engineering

- B.Sc. in Mechanical Engineering %90 – Pass admission tests: None – Language of study: English
- B.Sc. in Electrical Engineering %90 – Pass admission tests: None – Language of study: English
- B.Sc. in Chemical Engineering %90 – Pass admission tests: None – Language of study: English
- B.Sc. in Process Instrumentation and control Engineering %90 – Pass admission tests: None – Language of study: English
- B.Sc. in Electronics and Communications Engineering %85 – Pass admission tests: None – Language of study: English
- Bachelor of Architecture %90 – Pass admission tests: Admission Exam & Interview – Language of study: English
- B.Sc. in Civil Engineering %90 – Pass admission tests: None – Language of study: English
- Bachelor of Interior Architecture %90 – Pass admission tests: Admission Exam & Interview – Language of study: English. The Following General Secondary School specializations are accepted:
- (Scintific, Technical-Developed, Unified Tracks: Scintific, NVTC: Technical Engineering: (Mechanical)- Vocational Engineering (Welding).
- The applicant shall be medically fit for the academic program he/she wishes to enroll in.

Note:
Some programs require the applicant to attend and pass additional interviews and/or written tests.

GRADUATION REQUIREMENTS

- The standard duration for completing a Bachelor's program is 5 years, while the minimum is 3.5 years, and the maximum allowed is 7 years.
- Successfully complete all program courses.
- Minimum cumulative GPA of 2.00 out of 4.00.
- Minimum cumulative GPA of 2.00 out of 4.00 in specialization courses.
- Validate a professional internship before the graduation (minimum of 300 hours) .

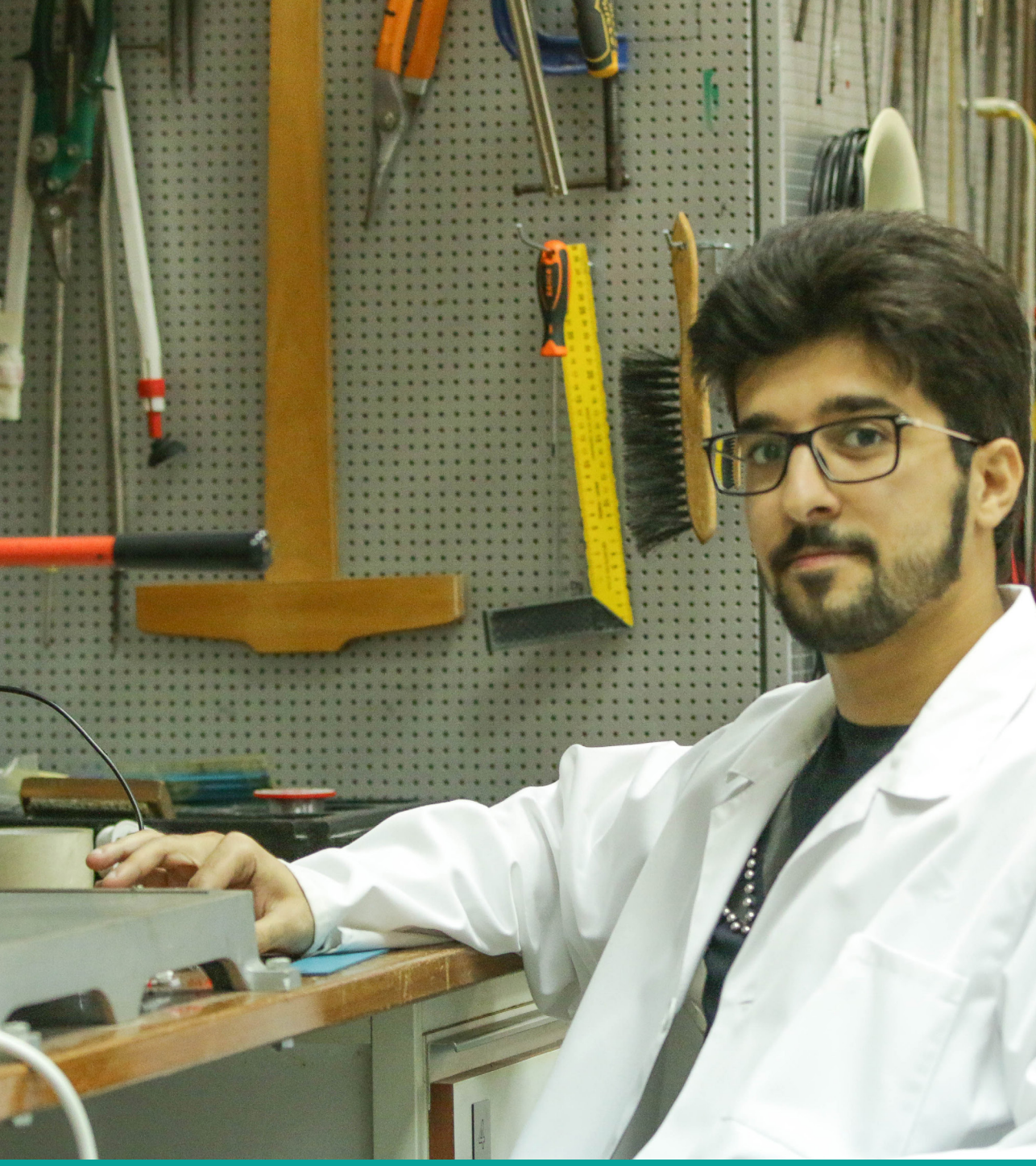
CAREER OPPORTUNITIES

Upon successful completion of the engineering program, graduates may find employment with several public and private agencies like:

- Aluminium Bahrain (Alba)
- Architectural Firms
- Bahrain Authority for Culture and Antiquities
- Bahrain Defence Force
- Bahrain Gas Company (Banagas)
- Bahrain Petroleum Company (Bapco)
- Bahrain Telecommunication Company (Batelco)
- Contractors Company
- Educators and Researchers
- Electricity and Water Authority (EWA)
- Engineering Offices
- Financial Sectors
- Gulf Aluminium Extrusion Company (BALEXCO)
- Gulf Aluminium Rolling Mill Company (GARMCO)
- Gulf Petrochemical Industries Company (GPIC)
- Insurance Companies
- Interior Design Offices
- Landscape Offices
- Ministry of Education
- Ministry of Finance and National Economy (MOFNE)
- Ministry of Health
- Ministry of Housing and Urban Planning
- Ministry of Industry & Commerce
- Ministry of Interior
- Ministry of Labour
- Ministry of Municipalities Affairs and Agriculture
- Ministry of Transportation and Telecommunication
- Ministry of Works
- Private Industries
- Project Management Firms
- Public Commission for the protection of Marine Resources, Environment and Wildlife
- Real Estate Regularity Authority
- Survey and Land Registration Bureau

Some of the graduates currently hold positions as managing directors, and university faculty members. Based on the feedback from these establishments and companies, College of Engineering graduates have shown success and ability to cope with current issues in their profession.

In addition, the College of Engineering is keen to keep its link active with its alumni and industry and to continuously cooperate with them and keep them aware of the educational, research oriented and other activities within the College.



GRADUATE INFORMATION
MASTERS

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN

MASTER OF ARCHITECTURE (M. ARCH)

The Master of Architecture (M. Arch) is a graduate program offered by the Department of Architecture and Interior Design, College of Engineering, University of Bahrain. The Program consists of a total of 33 credits (27 credits as Major Requirements and 6 credits as Major Electives). The degree could be completed in a minimum of 1.5 years (3 semesters) and a maximum of 4 years.

The Program requires students to complete 10 courses (seven 3-credits Major Requirement courses, two 3-credits Major Elective courses and a 6-credit course for the Thesis (Major requirement). The Major requirements consist of a total of 8 courses distributed throughout the study duration, including Architecture Phenomena (ARCH 610), Design & Community (ARCH 611), Research Methods (ARCH 612), Sustainable Built Environment (ARCH 614), Pre-Thesis (ARCH 620), Professional Practice (ARCH 622), Advanced Technologies in Built Environment (ARCH 632), and Thesis (ARCH 630). The Thesis course has pre-required 24 credit hours.

In addition to major requirements, students enrolled in this Program should take two Major Electives that provide specialization in a certain area related to Architecture.

DEPARTMENT OF CHEMICAL ENGINEERING

M.SC. IN CHEMICAL ENGINEERING

The Department of Chemical Engineering is at the forefront of innovation and research, playing a crucial role in addressing the complex challenges of modern society. With rapid advancements in chemical processes and technology, our department not only contributes to the development of efficient and sustainable solutions but also impacts various sectors, including process industry, energy, environmental management, etc.

Our educational programs are delivered by a dedicated team of highly qualified faculty members, consisting of professors, associate professors, and assistant professors. They are committed to fostering an environment of academic excellence through teaching, research supervision, and community engagement. Faculty research interests span a range of critical areas, including process thermodynamics, chemical reaction engineering, sustainable energy systems, renewable energy, process systems engineering, environmental engineering, water treatment and desalination, biochemical engineering, advanced materials, etc.

The graduate programs offered by the Department provide students with a comprehensive understanding of both theoretical concepts and practical applications in chemical engineering. Our Master of Science (M.Sc.) programs are designed to equip graduates with the necessary skills to excel in their careers and to contribute meaningfully to the field. In particular, the programs emphasize scientific inquiry, critical analysis, and innovative problem-solving approaches.

The M.Sc. in Chemical Engineering focuses on core principles and cutting-edge developments in the discipline, while the M.Sc. in Sustainable Energy Transition Systems prepares students to tackle the pressing energy challenges of the future. Both programs offer a balanced curriculum of core and elective courses, culminating in a research thesis that addresses real-world issues, ensuring that our graduates are well-prepared to lead in their respective fields. Students can pursue these programs on either a full-time or part-time basis, accommodating diverse educational and professional commitments.

The Program requires successful completion of a total of 33 credit hours: eight courses (24 credit hours) and a thesis (9 credit hours) of an acceptable standard.

The 33- credit Master of Science Program in Chemical Engineering provides graduates with an opportunity to enhance their knowledge in chemical engineering subjects and keep abreast with recent developments in process applications. The students would be trained in scientific inquiry, analysis and critical appraisal of technological issues through course and research work. The graduate program will lead the students to a productive career in the chemical engineering profession. The program will strengthen the intellectual environment in the department and allow the faculty to be engaged in stimulating research. The program is based on a careful balance of core, elective courses, and a thesis.

Core Courses: There are four core courses (Advanced Transport Phenomena, Advanced Process Thermodynamics, Mathematical Methods for Chemical Engineers and Advanced Chemical Reaction Engineering).

Elective Courses: The student is required to take four elective courses in his/her field of interest from the following list; Process Safety and Risk Analysis, Process Measurement and Data Management, Process and Energy Integration, Water Desalination, Optimization of Chemical Processes, Advanced Petroleum Reservoir Engineering, Corrosion Management and Control, Computer Process Control, Fuel Cell Science and Engineering, Environmental Engineering, Process Intensification, Biotechnology Applications in Process Engineering, Industrial Wastewater Treatment, Advanced in Petrochemical Processing, Chemical Product Design and Development, Special Topic in Process Engineering.

A strong mathematical background is required for the theoretical and simulation tasks covered in the core and elective courses. The elective courses relate theory to industrial situations, with emphasis on local and regional industries. The research leading to the master's thesis is intended to be creative and targeted towards practical problems of chemical engineering of interest. The program may be followed on either a full-time or part-time basis.

M.SC. IN SUSTAINABLE ENERGY TRANSITION SYSTEMS

The Program requires successful completion of a total of 36 credit hours: 6 courses (24 credit hours) and a thesis (12 credit hours) of an acceptable standard.

The 36-credit hour M. Sc. in SETS program is an interdisciplinary curriculum that aims to impart systems-based knowledge in four major areas: energy digitization, energy generation and storage, sustainable energy, and energy policy and management. Graduates of the program will be equipped with cutting-edge knowledge, critical thinking abilities, and problem-solving techniques to handle technical, financial, and environmental concerns when designing different sustainable energy systems. In addition, the graduates will possess the analytical skills necessary to run, regulate, assess, and oversee the sustainable energy systems of the future. theyby, will develop and steer the Kingdom›s energy industry toward becoming a dependable, highly efficient organization. The program will support the department›s intellectual climate and give faculty members the opportunity to work on exciting new projects. Carefully balancing core, elective, and thesis courses forms the foundation of the curriculum. At the Conference of Parties (COP) 26 in Glasgow, H.R.H. Prince Salman Bin Hamad Al-Khalifa set forth the objectives that this program will directly address.

Core Courses: There are five core courses such as Energy Systems, Carbon Capture, Utilization, and Storage (CCUS), Corporate Finance, Accounting, and Policy for Energy, Advanced Energy Conversion, and Digitalization for Energy Systems.

Elective Courses: The student is required to take one elective course in his/her field of interest from the following list: Biofuels and Biorefineries, Hydrogen Generation and Storage and Special Topics.

The courses connect theory to real-world industrial settings, with a focus on regional and local industry. The goal of the master›s thesis research is to better comprehend the complex and interconnected nature of multi-energy systems by applying a larger systems-thinking perspective to the problems posed by the switch to cleaner, more sustainable energy sources.

The courses relate theory to industrial situations, with emphasis on local and regional industries. The research leading to the master’s thesis is intended to be creative and targeted towards challenges associated with the transition to cleaner, more sustainable energy with a broader systems-thinking approach to understanding the complex and interconnected nature of multi-energy systems. Either full-time or part-time enrollment in the program is possible.

DEPARTMENT OF CIVIL ENGINEERING

M.SC. IN CIVIL ENGINEERING

Bahrain has been experiencing significant advancements in civil engineering projects. The island's skyline has transformed with many high-rise buildings and extensive flyovers. There has also been progress in alleviating stormwater flooding and projects that implement state-of-the-art water saving technologies. Moreover, the use of recycled materials in structural elements has been given a lot of attention to reduce the consumption of natural resources. Public transportation is another area which has been identified as critical for the promotion of sustainable development in the country, as well as in the region. The recent trend both globally and locally has observed an increase in environmental awareness and sustainable development and there is no doubt that the success of these projects requires advance knowledge of civil engineering with all its various disciplines. The MSc in Civil Engineering Program is designed to serve this purpose. It provides an opportunity to civil engineers to excel in advanced topics in four civil engineering disciplines:

- Structural Engineering,
- Transportation and Traffic Engineering,
- Water Resources and Environmental Engineering and
- Geomatics Engineering.

The program gives information about the up-to-date developments in the above-mentioned disciplines and equips its attendees with the capability of challenging with new technological demands.

In the civil engineering master's program, we focus on developing professional and ethical conduct in a modern work environment, effective communication, leadership skills, and responsible teamwork. We also train students to remain open to innovation and engage in lifelong learning to keep up with emerging technologies, social developments, and contemporary issues. Furthermore, conducting research and presenting results in scientific forums is crucial for contributing to the advancement of the scientific body of knowledge and is among the core principles entrenched in this program.

The Program requires successful completion of 33 credit hours: eight courses (24 credit hours) and a thesis (9 credit hours) of an acceptable standard. The eight courses include 3 core courses and 4 elective courses in one of the above-mentioned civil engineering disciplines.

Core Courses: The core courses include Advanced Construction Project Management, Numerical Methods for Differential Equations and Finite Element Methods

Elective Courses: The elective courses are listed below according to Civil Engineering Discipline:

- Structural Engineering: Advanced Mechanics of Materials, Plates and Shells, Matrix Structural Analysis, Structural Stability, Structural Dynamics, Advanced Steel Design, Pre-Stressed Concrete, Shallow and Deep Foundations, Bridge Engineering, Advanced Reinforced Concrete Design

- Transportation and Traffic Engineering: Pavement Design, Advanced Traffic Engineering, Transportation Planning and Modeling, Environmental Appraisal of Transportation Activities and Economics, Road Safety Audit, Advanced Pavement Material, Pavement Maintenance Program, Public Mass Transportation Systems, Transportation and Land Use Planning

- Water Resources and Environmental Engineering: Groundwater Resources Engineering, Advance Wastewater Treatment, Hydraulics of Closed Conduits, Advanced Hydrology, Chemistry in Environmental Engineering, hazardous and Industrial Waste Management, Water resources and Environmental Systems, Free Surface Flow, Coastal Engineering, Groundwater Contamination and Pollutant Transport

- Geomatics Engineering: Adjustment Computation of Spatial Data, Geospatial Data Management, Remote Sensing and Image Interpretation, Geospatial Image Processing, Digital Photogrammetry, Digital Cartography and Map Projection, GIS and Spatial Data Acquisition, Geodesy and Satellite Positioning, Close Range Photogrammetry, Practicum GPS

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

The unparalleled advancements in the field of Electrical and Electronic Engineering have set in a new revolution. This has not only helped the growth of other areas of engineering and technology but has also provided a positive contribution to every facet of society. Today, an estimation of a country's development and prosperity can easily be evaluated by the energy it produces and its level of achievement in electronics, information technology and computers - all of which fall under the broad area of this Department.

The educational process in the Department is carried out by well-qualified faculty, which consists of Professors, Associate professors, Assistant professors and two lecturers, as will as full-time instructors and graduate assistants. In addition to teaching, project and research supervision, the staff are encouraged to perform research and developmental work, administrative duties and community service. The areas of current interest of the faculty are in: Electrical machines, Renewable energy systems, Power systems and reliability, Power quality issues, Power electronics, Analog microelectronics circuits and systems, Digital electronics, Integrated circuit design, Analog and digital signal processing, Digital systems, Computer engineering, Tele-communications, Microwave engineering, Satellite communication, Neural networks, Image processing, Robotics and Control. The Electrical and Electronics Engineering Department offers a graduate program leading to the Master of Science (M. Sc.) in Electrical and Electronics Engineering.

The distinctive features of the program are the strong emphasis on fundamental Electrical and Electronics, physical and mathematical disciplines, and the clear focus on Electrical and Electronics Engineering applications. The program is based on a careful balance of (core) and (elective) courses. There are (three) major core courses, (six) elective courses and a thesis. One of the core courses is (Advanced Engineering Mathematics). A strong mathematical background is required for the theoretical and simulation tasks covered in the core and elective courses. The given elective courses relate theory to industrial situations. The research leading to the master's thesis is intended to be creative and targeted towards practical problems of Electrical and Electronics Engineering interest. The program may be followed on either full-time or part-time basis.

M.SC. IN ARTIFICIAL INTELLIGENCE SYSTEMS

The Master of Artificial Intelligence program is a platform for Leaders, executives, directors, managers, and practitioners who are seeking to better integrate AI into their business to improve performance, innovation, and competitive positioning. The most important aspect of the new proposed M.Sc. in Artificial Intelligence Systems is that it reflects the local and regional needs for embarking on new tools for engineering and science demands. It also provides an advanced understanding of various aspects of the use of AI tools for private and public applications in terms of design, management, maintenance, and service provision. The program has well established theoretical knowledge and practical skills related to modern AI. Careers: As a graduate, you will have the skills for a career in areas such as: Healthcare, Airports, Security, Transportations, Industry. The MSc is also an ideal entry point for doctoral research in AI uses and advanced systems.

The Program requires successful completion of 36 credit hours: six courses (24 credit hours) and a thesis (12 credit hours). The six core courses are as follows: Principles of Artificial Intelligence, Statistical Data Analysis and Research Methods, Internet of Things (IoT), Machine Learning, Deep Learning Applications, and Special Topics in Artificial Intelligence.

M.SC. IN TELECOMMUNICATIONS AND NETWORKING ENGINEERING

Telecommunications have been revolutionized many aspects of the life of business or government or individuals in Bahrain. The people become more connected, better informed and has greater technical sophistication than ever before. Therefore, all telecommunications sector from Small and medium-sized enterprises (SMEs) to huge service provider companies required a well-qualified and knowledgeable engineer who are specialized in this field to design and develop high speed networks and to cope with the rapid changes of future networks. The primary objective of this program is to equip participating students with a comprehensive and up-to-date knowledge based on the latest topics in wireless systems, networking, broadband multimedia communications, and convergence protocols.

The Program requires successful completion of 36 credit hours: six courses (24 credit hours) and a thesis (12 credit hours). The six core courses are as follows: Principles of Artificial Intelligence, Statistical Data Analysis and Research Methods, Internet of Things (IoT), Modern Telecommunications Systems, Advanced Communication Networks and Special Topics in Communications.

M.SC. IN RENEWABLE ENERGY ENGINEERING

The Master of Science in Renewable Energy Engineering program offers advanced training in the area of renewable energy systems. This program is designed to provide engineers with specific training in advanced areas of renewable energy technology. The emphasis is on the design, analysis and implementation of energy systems, with particular emphasis on renewable energy systems. Furthermore, the program is designed to provide engineers with training in advanced areas of renewable energy technology. The sustainable development of the renewable energy sector in most countries has been rapidly increasing over the past decade. A need has emerged for qualified engineers to deal with the project in all fields related to renewable energy applications.

The Program requires successful completion of 36 credit hours: six courses (24 credit hours) and a thesis (12 credit hours). The six core courses are as follows: Statistical Data Analysis and Research Methods, Renewable Energy Systems Fundamentals, Photovoltaic Energy Systems, Wind Energy Systems, Solar Thermal Energy and Special Topics in Renewable Energy Engineering.

M.SC. IN POWER SYSTEMS ENGINEERING

The Master of Science in Power system Engineering program has an objective of preparing the graduates with the following. To develop novel engineering solutions to important regional and global power systems engineering problems to meet the region's needs for power engineering through carrying out fundamental and applied research using appropriate design methods and analysis tools. To participate in the development of the power systems engineering industry in Bahrain and the region. To develop leadership skills to play principal roles in academic and industrial organizations in the power engineering areas. Also, to enable students to pursue Ph.D. and other advanced postgraduate studies.

The Program requires successful completion of 36 credit hours: six courses (24 credit hours) and a thesis (12 credit hours). The six core courses are as follows: Renewable Energy Systems Fundamentals, Advanced Power Systems Engineering, Power Electronics Applications in Power System, Power Systems Operations and Optimization Techniques, Stability and Control of Electric Power Systems and Special Topics in Power Systems Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

M.SC. IN MECHANICAL ENGINEERING

The Master of Science in Mechanical Engineering program is a challenging and rewarding way of study for a higher degree. Graduates of the Master of Science in Mechanical Engineering program will be able to fulfill the following:

- Act professionally and ethically in a modern work environment through effective communication and leadership, and responsible teamwork.
- Maintain the desire for innovation and engagement in lifelong learning in response to emerging technologies, social developments, and contemporary issues.
- Conduct research and present results in scientific forums and contribute to the advancement of the scientific body of knowledge.

The Program requires successful completion of a total of 33 credit hours: seven courses (23 credit hours) and a thesis (9 credit hours) of an acceptable standard.

Core Courses: Students are required to complete three core courses: Numerical Methods for Mechanical Engineers, Artificial Intelligence for Advanced Mechanical Engineering, and Research Methods in Engineering, in addition to the thesis.

Elective Courses: The elective courses in the program are categorized into different areas of specialization, and the student is required to take three elective courses in his/her field of interest from the following list.

Contemporary Cooling Technologies, Smart Materials and Structures, Technologies for Contemporary & Future Manufacturing, Computational Fluid Dynamics, Classical Continuum Mechanics, Advance Thermodynamics, Mechanics of Laminated Composites, Solar Thermal Technologies, Additive Manufacturing, Entrepreneurship: Crafting Business Journey, Renewable Energy Sources, Quality Improvement, Reliability and Maintainability, Advanced Mechanical Vibration, Aerodynamics, Applied Heat and Mass Transfer, Robotics and Automation, Advanced Finite Element Analysis and Design, Industry 4.0 for Mechanical Engineers, Fracture Mechanics, and/or Special Topics.

M.SC. IN ENGINEERING MANAGEMENT

The Master of Science in Engineering Management program is a challenging and rewarding way of study for a higher degree. Graduates of the Master of Science in Engineering Management program will be able to fulfill the following:

- Establish in-depth proficiency in engineering management fields relevant to industrial Organizations.
- Develop competitive skills in problem solving techniques, interdisciplinary teamwork and critical analysis of engineering management problems.
- Provide engineering professionals with engineering management foundation supporting continuous lifelong learning.
- Give students the knowledge to measure and evaluate technical, business, and human performance processes in engineering environments.
- Establish a solid foundation in engineering management and engineering business practices.
- Perform data analysis and optimization for decision making.

The Program requires successful completion of a total of 36 credit hours: ten courses (30 credit hours) and a thesis (6 credit hours) of an acceptable standard.

Core courses: There are nine core courses (Financial Accounting, Advanced Engineering Economy, Mathematical Programming, Advanced Operations Management, Quality Management for Engineers, Project Management, Advanced Statistics for Engineering Managers, Organization Concepts and Behavior, and Thesis).

Elective Courses: The elective courses in the program are categorized into different areas of specialization, and the student is required to take two elective courses in his/her field of interest from the following list:

Business Concentration Electives (Cost and Management Accounting, Information Systems Management, International Finance, Personnel Management, Human Resources Development, Business Policy, Supply Chain Management, and Marketing Management).

Engineering Concentration Electives (Systems Engineering, Technology Management, Engineering Systems Simulation, Facility and Work Design, Human Factors Engineering, Safety Engineering, Reliability and Maintainability, and Selected Topics in Operations Research).

ADMISSION CRITERIA

The candidate applied for the M.Sc. should:

- Hold a B. Sc. in Engineering or equivalent from the University of Bahrain or any other recognized university.
- The applicant must hold a bachelor's degree from the University of Bahrain or another university recognised by authorities, in a discipline which qualifies them for the programme they intend to pursue, with a cumulative Grade Point Average (GPA) of no less than 2.33 out of 4.0 points or equivalent thereof in other grading systems.
- Applicants with a GPA lower than 2.33 but no less than 2.00 may be accepted if they have at least one year of work experience in the field of specialisation they wish to study, as determined by the relevant academic department if the need arises, or if the applicant is a sponsored student.
- Submit two letters of recommendation from two staff members from the university they graduated from.
- An IELTS academic score of 5.5 or equivalent is required as specified by the university council, or pass two preliminary courses in English Language; failure to pass these two courses results in student's admission rejection.

GRADUATION REQUIREMENTS

- The standard duration for completing a Master program is 2 years; while the maximum is 4 years.
- To meet the graduation requirements, students must:
    - Successfully complete all the program courses (the passing grade in all courses of the Master's program shall be a grade of "B". However, a student may pass with a minimum grade of "C" in two courses only).
    - Required to attain a minimum cumulative GPA of 3.00 out of 4.00.

DOCTORAL STUDIES

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN

The Doctor of Philosophy program (Ph.D.) in Architecture provides an opportunity for students to pursue a program of research in a specialized area and to develop a dissertation that embodies the results of original research and gives evidence of high quality. The goal of the PhD is to provide a combination of research skills training, exposure to the latest engineering research and original theoretical research, which will help students to grow as 'professional researchers. Graduates awarded the PhD will generally be looking for an academic career in a University of College, or a career in a research agency or organization or in a specialist research section of a big organization. Doctoral education aims at fostering independent research capabilities that enable graduates to critically evaluate existing knowledge, use research to explore important questions in their fields, and thus create new knowledge and effective application of research findings.

The program requires successful completion of (75 Credits). The Ph.D. candidate is required to complete a minimum of 9 courses (27 Credits) for program courses, namely: Critical Readings of Theory, Advanced Research Methods, Research Seminar, Applied Statistics Techniques, Contemporary Issues, Qualitative Data Analysis, Phenomenological & Environment Behavior Research, Pre-Thesis, Research and Design. In addition, each student is expected to complete original research work and take an examination within three years of commencing his/her research study (48 Credits).

DEPARTMENT OF CHEMICAL ENGINEERING

The Doctor of Philosophy program (Ph.D.) in Chemical Engineering provides an opportunity for students to pursue a program of research in a specialized area and to develop a dissertation that embodies the results of original research and gives evidence of high quality. The program requires successful completion of (75 Credits). The Ph.D. candidate is required to complete a minimum of 7 courses (21 Credits): Advanced Numerical Methods, Finite Element Methods, Optimization Techniques, Research Methodology, Advanced Statistics, Research Seminars, Reading and Specialized Topics. In addition, the Ph.D. candidate is expected to complete original research work and take an examination within three years of commencing his/her research study (54 Credits).

The goal of the PhD is to provide a combination of research skills training, exposure to the latest engineering research and original theoretical research, which will help students to grow as 'professional researchers. Graduates awarded the PhD will generally be looking for an academic career in a University of College, or a career in a research agency or organization or in a specialist research section of a big organization. Doctoral education aims at fostering independent research capabilities that enable graduates to critically evaluate existing knowledge, use research to explore important questions in their fields, and thus create new knowledge and effective application of research findings.

DEPARTMENT OF CIVIL ENGINEERING

The Doctor of Philosophy program (Ph.D.) in Civil Engineering provides an opportunity for students to pursue a program of research in a specialized area and to develop a dissertation that embodies the results of original research and gives evidence of high quality. The program requires successful completion of (75 Credits). The Ph.D. candidate is required to complete a minimum of 7 courses (21 Credits): Advanced Numerical Methods, Finite Element Methods, Optimization Techniques, Research Methodology, Advanced Statistics, Research Seminars, Reading and Specialized Topics. In addition, the Ph.D. candidate is expected to complete original research work and take an examination within three years of commencing his/her research study (54 Credits).

The goal of the PhD is to provide a combination of research skills training, exposure to the latest engineering research and original theoretical research, which will help students to grow as 'professional researchers. Graduates awarded the PhD will generally be looking for an academic career in a University of College, or a career in a research agency or organization or in a specialist research section of a big organization. Doctoral education aims at fostering independent research capabilities that enable graduates to critically evaluate existing knowledge, use research to explore important questions in their fields, and thus create new knowledge and effective application of research findings.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

The Doctor of Philosophy program (Ph.D.) in Electrical Engineering provides an opportunity for students to pursue a program of research in a specialized area and to develop a dissertation that embodies the results of original research and gives evidence of high quality. The program requires successful completion of (75 Credits). The Ph.D. candidate is required to complete a minimum of 7 courses (21 Credits): Advanced Numerical Methods, Finite Element Methods, Optimization Techniques, Research Methodology, Advanced Statistics, Research Seminars, Reading and Specialized Topics. In addition, the Ph.D. candidate is expected to complete original research work and take an examination within three years of commencing his/her research study (54 Credits).

The goal of the PhD is to provide a combination of research skills training, exposure to the latest engineering research and original theoretical research, which will help students to grow as 'professional researchers. Graduates awarded the PhD will generally be looking for an academic career in a University of College, or a career in a research agency or organization or in a specialist research section of a big organization. Doctoral education aims at fostering independent research capabilities that enable graduates to critically evaluate existing knowledge, use research to explore important questions in their fields, and thus create new knowledge and effective application of research findings.

DEPARTMENT OF MECHANICAL ENGINEERING

The Doctor of Philosophy program (Ph.D.) in Engineering Management provides an opportunity for students to pursue a program of research in a specialized area and to develop a dissertation that embodies the results of original research and gives evidence of high quality. The program requires successful completion of (75 Credits). The Ph.D. candidate is required to complete a minimum of 7 courses (21 Credits): Advanced Numerical Methods, Finite Element Methods, Optimization Techniques, Research Methodology, Advanced Statistics, Research Seminars, Reading and Specialized Topics. In addition, the Ph.D. candidate is expected to complete original research work and take an examination within three years of commencing his/her research study (54 Credits).

The goal of the PhD is to provide a combination of research skills training, exposure to the latest engineering research and original theoretical research, which will help students to grow as 'professional researchers. Graduates awarded the PhD will generally be looking for an academic career in a University of College, or a career in a research agency or organization or in a specialist research section of a big organization. Doctoral education aims at fostering independent research capabilities that enable graduates to critically evaluate existing knowledge, use research to explore important questions in their fields, and thus create new knowledge and effective application of research findings.

ADMISSION CRITERIA

- An applicant for the PhD Program in Engineering must satisfy the rules and regulations set by the University of Bahrain.
- The applicant must hold a Master's and BSC degrees from the University of Bahrain or a recognized university in an engineering area similar to the discipline he/she is applying for with a minimum GPA of 3.00/4.00 or equivalent.
- Pass a written aptitude test and personal interview.
- Submit two letters of recommendation from two staff members from the university they graduated from.
- The applicant must hold an IELTS academic English Language certificate or equivalent thereof with a score of no less than 5.5, or pass the English language examination administered by the University. Applicants holding a Master's Degree from the University of Bahrain are exempted from the English language examination.

GRADUATION REQUIREMENTS

- The standard duration for completing a PhD program is 3.5 years, while the maximum allowed is 6 years.
- To meet the graduation requirements, students must:
    - Successfully complete all the program courses (the passing grade in all courses of the Master's program shall be a grade of "B". However, a student may pass with a minimum grade of "C" in two courses only).
    - Required to attain a minimum cumulative GPA of 3.00 out of 4.00.

RESEARCH CAPABILITIES

The College of Engineering has an excellent infrastructure to support research within the Engineering disciplines and related fields. This includes:

- Advanced Manufacturing Technologies
- Advanced Materials for Energy Storage
- Advanced Process Control
- Advanced Sensor Technology
- Application and Implementation of Renewable Energy
- Artificial Intelligence Systems
- Biomedical Instrumentation
- Biotechnology Applications in Process Engineering
- Building Information Modeling (BIM) and Computer-Aided Design (CAD)
- Building Thermal Comfort
- Coastal and Desert Ecosystems
- Communications Systems and Broadband Networking
- Corrosion Management and Control
- Cultural and Heritage Landscape Preservation
- Design of Optimum Thermal Systems
- Digital Signal Processing
- Ecotourism and Recreation
- Environment-Behavior
- Environmental Engineering
- Environmental Psychology and Human Well-Being
- Fuel Cell Science and Engineering
- Implementation of Renewable Energy Systems
- Industrial Cybersecurity
- Industrial Management
- Internet of Things systems
- Maintenace and Reliability
- Marching of Hard Materials
- Medical Imaging and Healthcare Data Analytics
- Molecular Communication and Nano network
- Molecular Simulation in Process Engineering
- New Construction Materials
- Next generation wireless Communications and networking
- Optical Communications
- Optimization of Chemical Processes
- Optimization Techniques for Process Control
- Optimum Lighting in Building
- Power Electronics and Smart Grid Technologies
- Process and Energy Integration
- Process Automation and Control Systems
- Process Intensification
- Renewable Energy and Landscape Integration
- Road Safety
- Robotics and Automation Engineering
- Safety Instrumented Systems
- Smart Grid
- Stainable Urban Development
- Structural Optimization
- Sustainable Chemical Process Design
- Sustainable Cities and Housing Alternatives
- Sustainable Transportation and Public Spaces
- System Engineering
- Theory of Architectural
- Traffic Simulation and Modeling
- Travel Behavior Prediction and Modeling
- Urban Agriculture and Food Security
- Urban Parks and Heat Mitigation
- Virtual Instrumentation
- Water Desalination and Treatment
- Water Resources

CONSULTANCY AND COMMUNITY SERVICES

The College of Engineering Departments have conducted several short courses and workshops in the past years including:

- Chemical Engineering for non-chemical Engineers
- Chemical Reaction Engineering
- Design, Operation and Maintenance of Refrigeration and Air Conditioning Systems
- Energy efficiency and management
- Energy Management in Buildings
- Energy Management Strategies Towards Carbon Neutrality
- Environmental Engineering for Non-Environmental Engineering
- Environmental Engineering for Non-Environmental Engineers
- Environmental management and sustainability
- Essential Research Skills for Budding Engineers
- Fundamentals of Electrical Engineering
- Housing & Digital Design Technologies
- Implementation of Renewable energy in Industrial Applications
- Industrial Statistics for Engineering and Technician
- Industrial Statistics for Engineers and Technicians
- Instrument and Control Engineering for Non-Instrument Engineers
- Instrumentation and Control Systems
- Lubrication, Friction and Wear
- Material Science and Corrosion
- Nanotechnology and microfluidics
- Optimization for Practitioners
- Petroleum Up Stream Downstream and Petrochemical Processes for non-process Engineers
- Process Data Analytics
- Process measurement and Control for Non-Instrument Engineers
- Process modelling, simulation and optimization
- Process Optimization for Engineers
- Rating, Operation, Troubleshooting and Maintenance of Heat Exchangers
- Rating, Operation, Troubleshooting, and Maintenance of Heat Exchangers
- Reliability and Maintainability
- Tuning of PID Controllers
- Tuning of PID Controllers for Engineers and Technicians
- Urban Design Housing and Development
- Urban Heritage and Management
- Water treatment and desalination technologies

In the meantime, the College of Engineering can offer consultancy in engineering areas for the local and regional industry.

FACULTY

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN FACULTY MEMBERS

Dr. Islam El Ghonaimy
Professor
Tel.: +973 17876927
eelghonaimy@uob.edu.bh

Dr. Najla Bent M. Alnaser Allani
Professor
Tel.: +973 17876241
nallani@uob.edu.bh

Dr. Fay Al Khalifa
Associate Professor
Tel.: +973 17876113
fayalkhalifa@uob.edu.bh

Dr. Naser Alnaser
Associate Professor
Tel.: +973 17876767
nalnaser@uob.edu.bh

Dr. Osama Mohamed Elsaid Omar
Associate Professor
Tel.: +973 17876700
oomar@uob.edu.bh

Dr. Buthaina Mansoor
Assistant Professor
Tel.: +973 17876174
bradhi@uob.edu.bh

Dr. Abeer Khalifa
Assistant Professor
abkhalifa@uob.edu.bh

Dr. Fatema Ahmed Alhammadi
Assistant Professor
Tel.: +973 17876248
falhammmadi@uob.edu.bh

Dr. Fatema Qaed
Assistant Professor
Tel.: +973 17876017
fqaed@uob.edu.bh

Dr. Haifa Ebrahim Al-Khalifa
Assistant Professor
Tel.: +973 17876101
halkhalifa@uob.edu.bh

Dr. Hana Al Jowder
Assistant Professor
Tel.: +973 17876163
haljowder@uob.edu.bh

Dr. Hawra Al Shaikh
Assistant Professor
Tel.: +973 17876174
halshaik@uob.edu.bh

Dr. Huda Almadhoob
Assistant Professor
Tel.: +973 17876646
halmadhoob@uob.edu.bh

Dr. Manal Khalaf
Assistant professor
Tel.: +973 17876064
mjkhalaf@uob.edu.bh

Dr. May Khalfan
Assistant Professor
Tel.: +973 17876707
mkhalfan@uob.edu.bh

Dr. Nehal Al Murbati
Assistant Professor
Tel.: +973 17876204
nalmurbati@uob.edu.bh

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN

FACULTY MEMBERS

Dr. Noor Aldoy
Assistant Professor
Tel.: +973 17876102
naldoy@uob.edu.bh

Dr. Omaima Al Abbasi
Assistant Professor
Tel.: +973 17876074
oalabbasi@uob.edu.bh

Dr. Reem Sultan
Assistant Professor
Tel.: +973 17876030
rsultan@uob.edu.bh

Dr. Tamadher Ali Alfahal
Assistant Professor
Tel.: +973 17876072
talfahal@uob.edu.bh

Dr. Wafa Al Ghatam
Assistant Professor
Tel.: +973 17876267
walghatam@uob.edu.bh

Dr. Wafa Hasan Al Madani
Assistant Professor
Tel.: +97317876066
walmadani@uob.edu.bh

Mrs. Anamika Jiwane
Senior Lecturer
Tel.: +973 17876486
ajiwane@uob.edu.bh

Mrs. Afaf Ebrahim
Lecturer
Tel.: +973 17876248
afibrahim@uob.edu.bh

Mrs. Ayesha Agha Shah
Lecturer
Tel.: +973 17876150
aashah@uob.edu.bh

Mrs. Dalia Shamsuldin
Lecturer
Tel.: +973 17876212
dshamshuldin@uob.edu.bh

Mrs. Layla Karajica
Lecturer
Tel.: +973 17876169
lkarajica@uob.edu.bh

Mrs. Najla Yousif
Lecturer
Tel.: +973 17876242
nyousif@uob.edu.bh

Mr. Nazish Abid
Lecturer
Tel.: +973 17876666
nabid@uob.edu.bh

Mr. Weldy Eka Saputra
Lecturer
Tel.: +973 17876071
wsaputra@uob.edu.bh

Mrs. Abeer Abubaker
Instructor
Tel.: +973 17876024
aibrahim@uob.edu.bh

Mrs. Fariel Khan
Senior Lecturer
Tel.: +973 17876135
fkhan@uob.edu.bh

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN
FACULTY MEMBERS

Ms. Abeer Qaed
Teaching and Research Assistant
Tel.: +973 17876245
abeer.qaed@gmail.com

Ms. Amal Attiya
Research and Teaching Assistant
Tel.:
aatiya@uob.edu.bh

Ms. Ayat Fadi AlBaitam
Research and Teaching Assistant
Tel.:
afadi@uob.edu.bh

Ms. Dina Khaleel Abdullah
Research and Teaching Assistant
Tel.:
diabdulla@uob.edu.bh

Ms. Hala Khalil Khalaf
Research and Teaching Assistant
hkkhalaf@uob.edu.bh

Mrs. Hala Nehad Abushaqra
Research and Teaching Assistant
Tel.:
hnehad@uob.edu.bh

Ms. Latifa Adnan AlTamimi
Research and Teaching Assistant
Tel.:
laltamimi@uob.edu.bh

Mr. Mahmoud Khan
Teaching and Research Assistant
Tel.: +973 17877963
makhan@uob.edu.bh

Mrs. Maryam Alfadhel
Teaching and Research Assistant
Tel.: +973 17876173
maalfadhel@uob.edu.bh

Mrs. Maryam Al-Jaidah
Research and Teaching Assistant
Tel.:
maljaidah@uob.edu.bh

Mrs. Maryam Obaid
Research and Teaching Assistant
Tel.:
malobaid@uob.edu.bh

Mr. Motaz Mestarehi
Research and Teaching Assistant
Tel.: +973 17876666
mmestarehi@uob.edu.bh

Mrs. Nada Mahmoud
Teaching and Research Assistant
Tel.: +973 17876245
nmahmood@uob.edu.bh

Mrs. Noor Al Alawi
Research and Teaching Assistant
Tel.:
nalalawi@uob.edu.bh

DEPARTMENT OF CHEMICAL ENGINEERING
FACULTY MEMBERS

Dr. Hayat Abdulla Yusuf
Associate Professor
Tel.: +973 17876223
hayousif@uob.edu.bh

Dr. Hosni Mohammed Zubeir
Associate Professor
Tel.: +973 17876880
halzubair@uob.edu.bh

Dr. Mohamed Saleh Alansari
Associate Professor
Tel.: +973 17876050
malansari@uob.edu.bh

Dr. Majeed Safar Jassim
Associate Professor
Tel.: +973 17876346
mjasim@uob.edu.bh

Dr. Mohamed Bin Shams
Associate Professor
Chemical Engineering
Tel.: +973 17876622
mshams@uob.edu.bh

Dr. Noureddine Mansour
Associate Professor
Tel.: +973 17876335
nmansour@uob.edu.bh

Dr. S. M. Zakir Hossain
Associate Professor
Tel.: +973 17876374
zhossain@uob.edu.bh

Dr. Shaker M. Haji
Associate Professor
Tel.: +973 17876104
shaji@uob.edu.bh

Dr. Zainab M. Redha
Associate Professor
Tel.: +973 17876171
zali@uob.edu.bh

Dr. Abdulla Faisal Al Shater
Assistant Professor
Tel.: +973 17876383
aalshater@uob.edu.bh

Dr. Ajaz R. Ghulam
Assistant Professor
Tel.: +973 17876985
arashid@uob.edu.bh

Dr. Bassam Alhamad
Assistant Professor
Tel.: +973 17876109
balhamad@uob.edu.bh

Dr. Kamal Mustafa Sassi
Assistant Professor
Tel.: +973 17876869
kalmuteer@uob.edu.bh

Dr. Mohamed Abdelrahim Osman
Assistant Professor
Tel.: +973 1787
maosman@uob.edu.bh

DEPARTMENT OF CHEMICAL ENGINEERING
FACULTY MEMBERS

Dr. Mostafa Ghasool
Assistant Professor
Tel.: +973 17876474
mghassoul@uob.edu.bh

Dr. Muhammad Rizwan
Assistant Professor
Tel.: +973 17876392
mrizwan@uob.edu.bh

Dr. Raed E. Al-Jowder
Assistant Professor
Tel.: +973 17876422
raljowder@uob.edu.bh

Dr. Sabri Mrayed
Assistant Professor
Tel.: +973 17876474
smrayed@uob.edu.bh

Mrs. Bintu Jasson
Lecturer
Tel.: +973 17876187
bjasson@uob.edu.bh
Mr. Abdulnaser Abdulaziz Mohamed
Lecturer
Tel.: +973 17876383
aamabdulla@uob.edu.bh

Mr. Abdulnaser Abdulaziz Mohamed
Teaching Assistant
Tel.: +973 17876383
aamabdulla@uob.edu.bh

DEPARTMENT OF CIVIL ENGINEERING
FACULTY MEMBERS

Prof. Mustafa Aytekin
Professor
Tel.: +973 17876080
maytekin@uob.edu.bh

Dr. Uneb Gazdar
Associate Professor
Tel.: +973 17876307
ugazder@uob.edu.bh

Dr. Abdulhamid Irhouma
Assistant Professor
Tel.: +973 17876952
airhouma@uob.edu.bh

Dr. Abrar Habib
Assistant Professor
Tel.: +973 17876993
amhabib@uob.edu.bh

Dr. Fuad Ahmad Musleh
Assistant Professor
Tel.: +973 17876953
fmusleh@uob.edu.bh

Dr. Hassan Reyadh Aljaidah
Assistant Professor
Tel.: +973 17876045
haljaidah@uob.edu.bh

Dr. Mahmoud Jahjouh
Assistant Professor
Tel.: +973 17876180
mjahjouh@uob.edu.bh

Dr. Mohamed Ajmal
Assistant Professor
Tel.: +973 17876909
majmal@uob.edu.bh

Dr. Mona Abdul Latif Abdulla
Assistant Professor
Tel.: +973 17876158
mismail@uob.edu.bh

Dr. Najeeb G. N. Mohammed
Assistant Professor
Tel.: +973 17876250
nnasher@uob.edu.bh

Dr. Nidal A. Dahman
Assistant Professor
Tel.: +973 17876093
ndahman@uob.edu.bh

Dr. Nuha Jamal Al-Zayani
Assistant Professor
Tel.: +973 17876096
njalzayani@uob.edu.bh

Dr. Rashid A. Rahman Yousif
Tel.: +973 17876030
Assistant Professor
rismaeel@uob.edu.bh

Dr. Semih Erhan
Assistant Professor
Tel.: +973 17876047
serhan@uob.edu.bh

Dr. Ahmed Abdulla Alali
Assistant Professor
Tel.: +973 17876907
aalali@uob.edu.bh

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
FACULTY MEMBERS

Prof. Khaled Zehar
Professor
Tel.: +973 1787 6112
kzehar@uob.edu.bh

Prof. Mohab A. Mangoud
Professor
Tel.: +973 1787 6261
mmangoud@uob.edu.bh

Prof. Ebrahim Mattar
Professor
Tel.: +973 1787 6286
ebmattar@uob.edu.bh

Dr. Zouhir Khalifa Bahri
Associate Professor
Tel.: +973 1787 6013
zkbahri@uob.edu.bh

Dr. M. R. Qader
Associate Professor
Tel.: +973 1787 6141
mredi@uob.edu.bh

Dr. Sayed Ali Al-Mosawi
Associate Professor
Tel.: +973 1787 6466
aalmossawi@uob.edu.bh

Dr Ayman Al-Khazraji
Assistant Professor
Tel: +973 1787 6026
aalkhazraji@uob.edu.bh

Dr. Maamar Taleb
Associate Professor
Tel.: +973 1787 6148
mtaleb@uob.edu.bh

Dr. Mohammed Majid Al Khalidy
Assistant Professor
Tel.: +973 1787 6099
mmajid@uob.edu.bh

Dr. Ebrahim A.Rahman Abdulla
Assistant Professor
Tel.: +973 17876210
earahman@uob.edu.bh

Dr. Fadhel Abbas Albasri
Assistant Professor
Tel.: +973 17876332
falbasri@uob.edu.bh

Dr. Salwa Baserrah
Assistant Professor
Tel.: +973 17876012
sbaserrah@uob.edu.bh

Dr. Mohamed Amine Fnaiech
Assistant Professor
Tel.: +973 17876117
mfnaiech@uob.edu.bh

Dr. Raja Mohamed Sumsudeen
Assistant Professor
Tel: +973 17876191
rsumsudeen@uob.edu.bh

DEPARTMENT OF MECHANICAL ENGINEERING
FACULTY MEMBERS

Dr. Ghulam Hussian
Professor
Tel.: +973 Tel.: +973 17876624
ghussain@uob.edu.bh

Dr. Abdul Waheed Badar
Associate Professor
Tel: +973 1787 6119
awbadar@uob.edu.bh

Dr. Omar Al-Abbasi
Associate Professor
Tel.: +973 17876021
omabbasi@uob.edu.bh

Dr. Riaz Muhammad
Associate Professor
Tel: +973 1787 6125
rmuhammad@uob.edu.bh

Dr. Raguraman Kannan
Assistant Professor
Tel: +973 1787 6039
rkannan@uob.edu.bh

Dr. Abdulrahman Sayed Abduljalil
Assistant Professor
Tel.: +973 17876700
asayed@uob.edu.bh

Dr. Bader Al Mannai
Assistant Professor
Tel.: +973 17876407
balmannai@uob.edu.bh

Dr. Maher Al Hayali
Assistant Professor
Tel.: +973 17876383
mmahmood@uob.edu.bh

Dr: Niaz Bahadur Khan
Assistant Professor
Tel.: +973 17876624
nbkhan@uob.edu.bh

Dr. Osama Al-Jamal
Assistant Professor
Tel.: +973 17876536
oaljamal@uob.edu.bh

Dr. Said Ghani Khan
Assistant Professor
Tel.: +973 17876213
srahman@uob.edu.bh

Dr. Venu Parameswaranpillai
Assistant Professor
Tel: +973 38734134
venup@uob.edu.bh

Dr. Yaser Al-Alawi
Assistant Professor
Tel.: +973 17876004
yalalawi@uob.edu.bh

Dr. Zahir Hanouf
Assistant Professor
Tel.: +973 Tel.: +973 17876457
zhanouf@uob.edu.bh

Mr. Shamsan Al-Shams
Lecturer
Tel.: +973 17876166
salshams@uob.edu.bh

GET IN TOUCH

DEAN'S OFFICE

Dr. Haifa Bint Ebrahim Al-Khalifa
TEL: +973 17436604
EMAIL: HALKHALIFA@UOB.EDU.BH
BUILDING S46 ROOM NO. 6101
SAKHEER CAMPUS, KINGDOM OF BAHRAIN
P.O. BOX: 32038

DEPARTMENT OF ARCHITECTURE & INTERIOR DESIGN

Dr. Huda Almadhoob
Tel: +973 17876646
Email: halmadhoob@uob.edu.bh
Building S17 Room No. 011A
Sakheer Campus, Kingdom of Bahrain
P.O. Box: 32038

DEPARTMENT OF CHEMICAL ENGINEERING

Dr. Mohamed Bin Shams
Tel: +973 17876622
Email: mshams@uob.edu.bh
Building No. 31 Room No. 208
Isa Town, Kingdom of Bahrain
P.O. Box: 32038

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Dr. Zouhair Khalifa AlBahri
Tel.: +973 1787 6013
Email: zkbahri@uob.edu.bh
Building No. S41 Room No. 2114
Isa Town, Kingdom of Bahrain
P.O. BOX: 32038

DEPARTMENT OF MECHANICAL ENGINEERING

Dr. Osama Al-Jamal
Tel: +973 17876614
Email: oaljamal@uob.edu.bh
Building No. 14 Room No. 106
Isa Town, Kingdom of Bahrain
P.O. Box: 32038

DEPARTMENT OF CIVIL ENGINEERING

Dr. Mahmoud Jahjouh
Tel: +973 17876180
Email: mjahjouh@uob.edu.bh
Building No. S41 Room No. 2145
Sakhir, Kingdom of Bahrain
P.O. Box: 32038

www.uob.edu.bh

uobedubh