



جامعة الإمام عبد الرحمن بن فيصل
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

عمادة البحث العلمي
Deanship of Scientific Research

The Definition of research laboratories

In College of

Engineering



MARKETING UNIT
وحدة التسويق
عمادة البحث العلمي
DEANSHIP OF SCIENTIFIC RESEARCH

The Research laboratories at the College of Engineering help researchers conduct their experiments easily and easily, as follows:

Lab Name

Lab Definition

Biomedical Testing Lab

In this lab, the testing systems provide the ability to perform variable speed tensile, compressive, indentation, flexure, and fatigue testing on a variety of different biological specimens, with diversity in specimen size and geometry.

Biomedical Optics Lab

In this lab, the aim is to carry out experiments concerning imaging and spectroscopy. Currently, some experiments using fNIRS system are ongoing to understand the hemodynamic in the brain of the subjects under different situations.

Bioelectromagnetics Lab

In this lab, different experiments about applications of electromagnetic waves in biomedical applications are carried out. Biosensing, RF-tissue interaction, glucose level in the blood, and skin aging are currently the main fields of study.

Lab Name**Lab Definition****In vivo Molecular Imaging Center (iMIC)**

The multidisciplinary center equipped with state-of-the-art preclinical PET/MRI machine, will allow to develop in vivo molecular imaging studies for different disease models including cancer, infections, metabolic disorder, stroke, neurodegenerative and cardiovascular disease amongst other. It will also allow to study nanomedicine in vivo and can help to translate research to clinical settings.

Material Characterization Laboratory

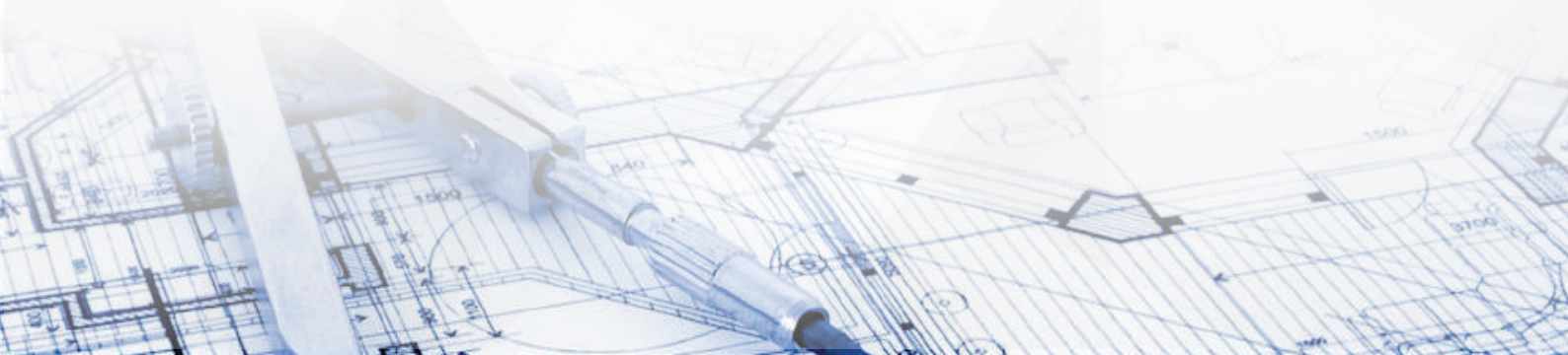
Focused on the study of metals, alloys, minerals, inorganic and organic compounds, polymers, and amorphous materials, this laboratory uses electrical, structural, and optical characterization techniques to study materials.

Laser Laboratory

Laser interaction with materials

Catalysis Laboratory

Focused on synthesis of supported metal nano particles catalysts, characterization porous materials and powders, and chemical analysis.



Lab Name

Lab Definition

Electrochemical Science and Engineering Laboratory

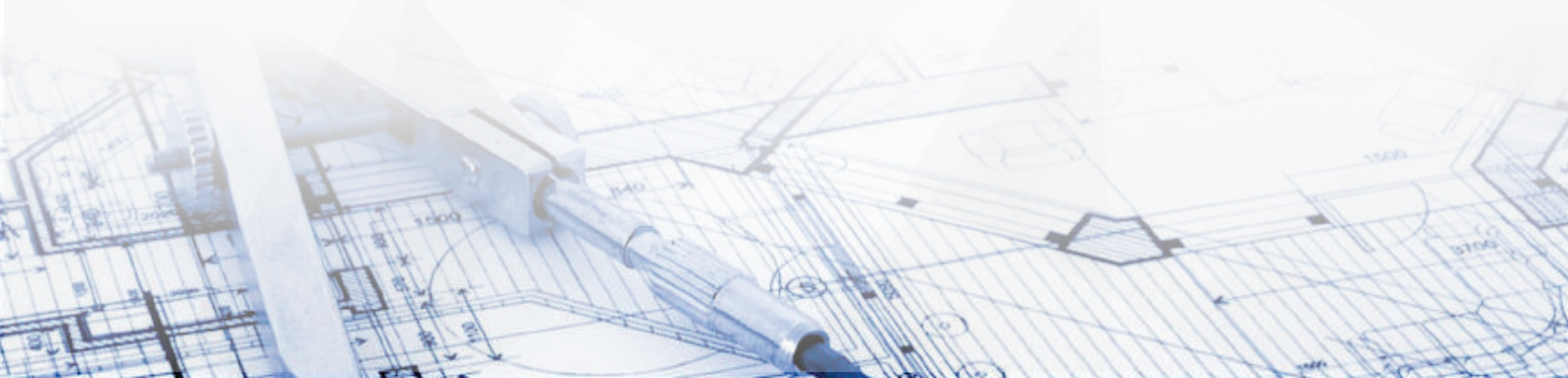
Electrochemical analyses

This laboratory is equipped with advanced devices such as AAS, ICP-OES and ICP-MS, which specialize in heavy metal inspections in various concentrations in various environmental samples. The laboratory also contains support devices such as two water purification devices to provide the de-ionized water needed to operate the analysis devices efficiently and the laboratory contains a laboratory microwave device specialized in digesting and processing samples for analysis devices to receive. In addition to multi-support devices such as Stirrers and Hotplate.

Environmental Analysis Lab

This laboratory specializes in measuring air pollutants of various types and concentrations such as chimney gases and greenhouse gases Green House gasses and most of the devices of this laboratory are sophisticated but light and easy to carry so that examiners can take them to the pollution places and make measurements directly for the site that would give more accurate results as well as renewed results with each moment of measurement.

Air Pollution Lab



Lab Name

Lab Definition

Wastewater & Organic Analysis Lab

This laboratory is equipped with chromatographic analysis devices such as ion Chromatography, High-Performance liquid Chromatography and mass-spectrum gas organic meter Mass Spectrometry Gas Chromatography, the world's most accurate instrument for measuring gas pollutants and liquid pollutants with boiling temperatures below 350°C. It is worth mentioning that this device is also equipped with various types of sample receptors that in turn are automatic and introduced into the device automatically as well, this is what the laboratory contains many supporting devices for the mating of samples such as Rotary Evaporator and Soxtec ovens

Solid Waste Management Lab

This laboratory specializes in measuring pollutants from various student materials from household waste or industrial waste and this laboratory contains waste leakage and cyclones to the soil and its impact on the environment, the energy meter expected from these wastes Calorimeter, the carbon, hydrogen and nitrogen sulfur meter CHNS m device measuring surface areas of solids, spectrophotometer, acid meter and electrical conductivity meter m, such as hotplaters stirrers stirrers Centrifuges, water distillery, sensor features and many other devices.

Lab Name**Lab Definition****Environmental Microbiology Lab**

This laboratory specializes in examining environmental samples and their contamination with microorganisms such as bacteria species, eggs and various fungi that are a very important source of pollution, especially for their strong and direct impact on public health, thus equipping this laboratory with incubators for the development of bacteria and fungi, including autoclave pressure and heat sterilization devices, various microscopies and laminar flow and safety devices necessary to provide a sterile and protected working environment against pollutants to ensure the quality and health of the results.

Concrete and Strength of Materials Laboratory

Evaluate material performance and establish compliance for the quality of plain concrete and steel rebar

Lab Name**Lab Definition****Non-Destructive Testing Laboratory**

Evaluate concrete structure performance and establish compliance for the quality of concrete.

Soil Mechanics Laboratory

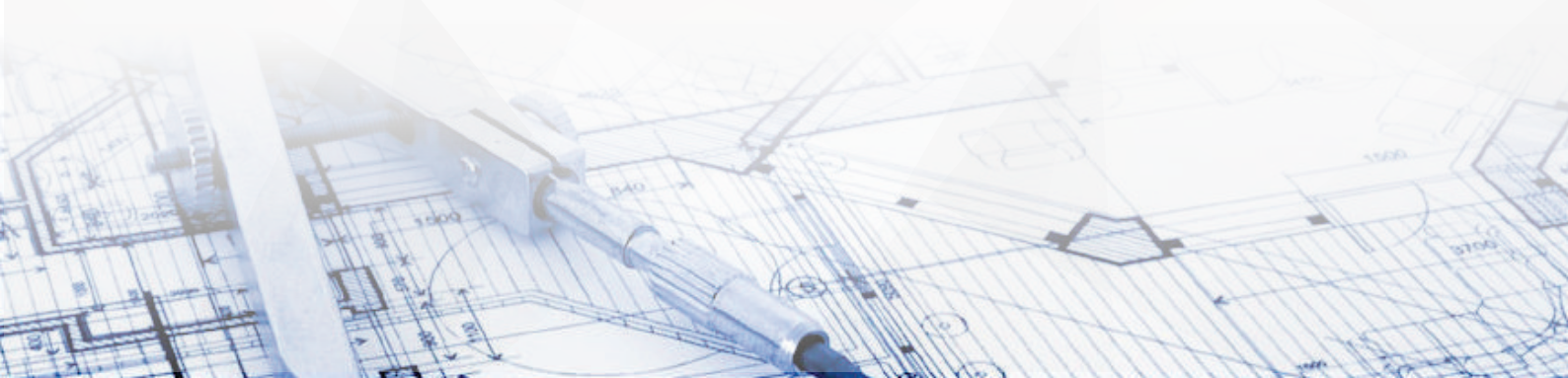
Covers the essential properties of soils and their behavior and provides clear, step-by-step explanations for conducting typical soil tests .

Structural Mechanics Laboratory

Small scale and full-scale structural testing, model testing, stress analysis, and material property determination of various materials, systems, composites, and structures.

Surveying Laboratory

Draw map in suitable scale by using different surveying instruments like total station, auto level, global positioning system, geographical information system, electromagnetic distance measurement, plane table, compass, etc.





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