



College of Pharmacy

> Labs

Labs

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Pharmaceutical Analysis Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Pharmaceutical Analytical Chemistry
- Orientation to Pharmacy

Objectives of the Laboratory:

- To make the students familiar with technicalities involved in analytical procedures.
- To make the students aware of qualitative and quantitative analysis of compounds and mixtures.
- To train the students on various basic chemical analysis techniques so that they could apply them in qualitative and quantitative analysis of drugs.
- To conduct assay of pharmaceutical products and materials

- To train the students in the preparation of simple dosage forms including the liquid and semisolid preparations

The laboratory is equipped with:

- Number of electronic analytical balances- 1
- Number of electronic top loading analytical balances. -3
- hot plates and magnetic stirrer -1
- different types of water baths-2
- Spectrophotometers-1
- Polarimeters -2
- A hot air oven. -1 (Muffle furnace)
- A pH meter. – 6 + 2(Electronic)
- Desiccators -1
- Sonicator -1
- All types of glass apparatus and chemicals needed for quantitative and qualitative analysis.
- Fume hood-1
- Heating Mantles-8

Chemistry & Biochemistry Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Pharmaceutical Organic Chemistry
- Biochemistry

Objectives of the Laboratory:

- To make the students aware of qualitative and quantitative analysis of organic compounds.
- To train the students in synthesis of few organic compounds and drugs.
- To train the student in the laboratory diagnostics (chemical tests).
- To train the students in diagnostic tests of various diseases in humans

The laboratory is equipped with:

- Number of electronic analytical balances -2
- Number of hot plates -1
- Heating mantels -4

- Vacuum filtration pump -2
- Water baths. -1
- An Ice maker-1
- Desiccators-1
- Distillators- 2
- Distilled water assembly-1
- Melting point apparatus-1
- Fume hood -1
- Electrophoresis-1

Microbiology Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Pharmaceutical Microbiology

Objectives of the Laboratory:

- To teach the students practically the various methods involved in microbiological manipulations e.g., identification, isolation and diagnosis of microorganisms in biological samples.
- To teach the students various staining techniques to reveal the different bacterial compounds.
- To perform different methods of sterilization for bacterial culture media, glass wares and also specific pharmaceutical ointments, oils and powders etc.
- To conduct some of Pharmacopeial methods such as sterility testing and some of antibiotic analysis methods

The laboratory is equipped with:

- Binocular microscopes. -8
- An incubator-2
- A hot air oven -1
- An autoclave-1
- A laminar flow-1
- A refrigerator-1
- Colony counter -2
- Various types of culturing media, Petri dishes, microbiological slides, staining baths and all chemicals and glass apparatus required to conduct microbiological testing.
- Magnetic stirrers-4
- Electronic Balance-1
- Micropipettes(different volumes)-1

- Body Fat Analyzer

Anatomy and Histology Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Anatomy and histology

Objectives of the Laboratory:

- To familiarize the students with normal structure and functions of various parts of human body.
- To teach the students functions of human body in their applications for the diagnosis and management of various diseases.
- To Provide students the knowledge of investigating the normal microscopic structure of the human cell
- To provide the students the knowledge about functions of various organs including the composition of body fluids, particularly blood with reference to deviation from the standard / normal conditions that occurs in various diseases affecting human.

Laboratory Facilities:

- Number of microscopes and explanatory slide packages for all diseases, which affect humans to conduct histological studies
- Large number of human anatomy organ models such as human anatomy model, skeleton model human, anatomical lung model, muscle anatomy model, anatomy brain model... etc. it contains also a large number of microscopic slides covers most of important organs and tissues and interactive CD's.
- Data show and overhead projector
- Microscopes- 6
- Cell Replication models-1
- Eye ball-1
- Circulatory System-1
- Reproductive systems-2

Pharmacognosy Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Pharmacognosy.

Objectives of the Laboratory:

- To be used for morphological and microscopical studies of medicinal herbs and plant materials.
- To identify the constituents of plant material by performing chemical tests.

The laboratory is equipped with:

- Binocular microscopes-5
- A range of glassware and equipments used for the separation and identification of medical plants extracts such as separating funnels, rotary evaporators, column chromatography in addition to large number of plant samples
- A glass cupboard having jars and small containers in which different types of plant material and drugs are stored.
- Fume hood-1
- UV- Vis Spectrophotometer-1
- Water Baths-2
- Centrifuge-1
- Data show-1
- Magnetic Stir-1
- Tensiometer-1
- Distilled water Assembly-1
- Heating Mantles-12

Drug Information Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Drug information
 - Non prescription Drugs
 - Pharmacy practice

Objectives of the Laboratory:

- To provide the students with the required information on the pharmaceutical and clinical topics.
- Help students to write their projects, essays, review articles for research and knowledge.
- Helps in teaching of Drug information, Clinical Pharmacy and Pharmaceutical Care Courses

The laboratory is equipped with:

- More than 20 computers with Internet connections, primary literature, CD-ROMS and also a number of reference books.

Pharmacology & Toxicology Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Pharmacology I & II
- Pharmacotherapy I,II & III

Objectives of the Laboratory:

- To conduct invitro and invivo experiments / demonstrations on the pharmacological actions of drugs.
- To correlate the didactic teachings with its practical applications.
- To train students to extrapolate the experimental data on drugs to its clinical application in the pharmacy and hospital.
- The stimulate students for open discussion on the role of these drugs and habit of self-learning.

Teaching Facilities:

- Software and CD's to demonstrate practical and clinical cases.
- Water Bath -1
- Lab ECG
- Microscopes -3
- Fume hood-1

- Rotary Evaporator-1

Pharmaceutical technology Laboratory

This Laboratory is used to conduct the practical part for the following courses:

- Pharmaceutics I and II.
- Biopharmaceutics and pharmacokinetics.

Objectives of the Laboratory:

- To train the students on performing physical quality control such as dissolution of various solid dosage forms, disintegration, hardness, friability etc...
- To educate the students for bioavailability, bioequivalence and pharmacokinetics of drugs or their products manufactured in different pharmaceutical companies.

Laboratory Facilities:

There are four benches arranged squarely against walls. These benches have electrical connections with sockets and water connection with sink.

The laboratory is equipped with:

- Rotating bottle USP dissolution tester-1
- Disintegration time tester-1
- Vertex mixer-1
- Thermostatic shaker water bath-3
- Spectrophotometers -1
- PH meters1
- Tablet Punching Machine-1
- Y- Mixer-1
- Granulator-1
- Manual Filling Capsule Machine-1
- Biological Safety Cabinet-1
- Moisture Balance-1
- Stability Chamber-1
- Particle Size Analyzer (sieving)-1
- Analytical Balance -4
- Friability Tester-1
- Hardness tester-1
- Oven -1
- Tensiometer-1
- Ultrasonic Water bath-1

Research Laboratory

The college is process of equipping these laboratories with the required instruments and machines to conduct the desired research and practice procedures

For the Research Lab. Many instruments have been installed including the fully automated HPLC system + Computer + Printer, Atomic Absorption Spectrophotometer + Argon PRM Cylinder + Computer + Printer, Infra-Red Spectrophotometer + Computer + Printer, Rotary

Evaporator + Vacuum in Fume Hood, Dual Action Shaker, Electronic Balance, Water bath (Wise Bath), Heating Plate with magnetic stirrer Vitros System, UV Trans illuminator with Cannon Camera, Single Reflection Horizontal ATR Accessory, UV Trans illuminator, Multigene optimax, Freezer, Electrophoretic Units with Power Packs, Thermo cycler, Centrifuge (Mini), UV Cabinet, and Centrifuge machine.

Virtual Pharmacy Laboratory

In order to prepare the Pharmacy students for Pharmacy Practice and Pharmaceutical services, simulation is established through the development of Virtual Pharmacy. Virtual Pharmacy has been used for the first time in the second semester of the Academic Year 2014-2015 for the non-prescription drugs tutorial. Students attend the Virtual Pharmacy on a weekly basis. They study the medications on the shelves, practice nonprescription cases including: common cold, cough, pain, GIT disturbances, acne products, nutritional supplements, weight loss products, some eye preparations and skin products. Each session cover one topic where the students discuss different scenarios. In each scenario, one of the students play as patient and the other play as the pharmacist. Other students watch the role-play and take notes for open discussion after each role-play. Students were expected to cover certain issues when practicing the role-play which include the following: patient assessment of the case, understanding the underlying medical condition, evaluate if the case needs referral or not, evaluate the dose and dosage form, proper use of the medication by providing a complete counseling session and finally, making sure that the patient understood every related aspect of the medical condition and medication usage. Students are asked to prepare a report about each topic.

Drug modeling Lab.

This lab is designed for the research purpose in drug modeling and design and in medicinal chemistry research work.

Laboratory Facilities:

- The lab contains number of computers and software and programs for drug modeling purpose.

Additional Chemistry Laboratory

Due to the increase in the enrolled student number an additional chemistry lab was added in order to serve the students practice skills in the chemistry courses

Objectives of the Laboratory:

- To make the students aware of qualitative and quantitative analysis of organic

compounds.

- To train the students in synthesis of few organic compounds and drugs.
- To train the student in the laboratory diagnostics (chemical tests).
- To train the students in diagnostic tests of various diseases in humans

The laboratory is equipped with:

- Number of electronic analytical balances -2
- Number of hot plates -1
- Heating mantels -4
- Vacuum filtration pump -2
- Water baths. -1
- An Ice maker-1
- Desiccators-1
- Distillators- 2
- Distilled water assembly-1
- Melting point apparatus-1
- Fume hood -1
- Electrophoresis-1

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