Course Description
Department of Pharmaceutical Chemistry
Plan 2013-2018

Pharmaceutical Organic Chemistry (131703211)- 2 credit hours. (110103236)

The course covers knowledge of organic chemistry with particular emphasis on heterocyclic organic compounds including their nomenclature, nature sources and methods of synthesis. It covers chemistry of different classes of heterocyclic and polycyclic aromatic compounds involving one or more heteroatoms with concentration on their medical and pharmaceutical importance. In addition to stereochemistry and its relation to pharmacologically active compounds.

Pharmaceutical Organic Chemistry- Practical (131703212) –1 credit hour. (131703211 or concurrent)

The laboratory is divided into three parts; the first part includes the various separation and purification techniques of organic compounds including crystallization, distillation, extraction and chromatography. The second part concentrates on the identification of functional groups of organic compounds of pharmaceutical interest. In addition, synthesis of some pharmaceutical compounds will be undertaken

Pharmacognosy and Phytochemistry (131703313)- 3 credit hours. (131703211)

The aim of this course is to introduce the students to Pharmacognosy principles. Including the binomial names, medicinally active constituents, part used and therapeutic uses of the medicinal plants. Next the students will study various phytochemical groups, for example: Glycosides, Alkaloids, Volatile oils, Terpenes, etc.…Moreover, the student will learn more about extraction, identification and determination of medicinally active constituents.

Pharmacognosy and Phytochemistry- Practical (131703314)- 1 credit hour. (131703313 or concurrent).

The aim of this course is to train the students on applying the most important phytochemical identification techniques. In addition to that the students will be trained on various phytochemical separation and analysis methods.

Pharmaceutical Instrumental Analysis (131703315)- 2 credit hour. (110103211 and 131703211)

The course is designed to give the pharmacy student an overview of the various modern instrumental analytical technique used in pharmaceutical analysis. It is very important information for our students to teach how to identify the chemical structure from the complementary information afforded by four types of spectra: UV, IR, NMR and MS.

Additionally, the introduction to chromatographic theory, separation techniques and applications concerned on HPLC and GC.

Pharmaceutical Instrumental Analysis- Practical (131703316)- 1 credit hour. (131703315 or concurrent)

This course covers the practice of instrumental analysis as applied to the identification and quantitation of analytes in samples typically encountered in chemical and pharmaceutical industries. Course emphasis will be placed on Potentiometric titration, UV-Visible spectroscopy qualitative analysis, Infrared, Solid phase extraction, High performance liquid chromatography, and Gas chromatography. These methods are used in lab along with other analytical procedures in applications for analysis of pharmaceutical preparations.

Medicinal Chemistry (1) (131703323)- 2 credit hours. (131703211)

The aim of this course is to introduce the students to physicochemical properties of the drugs and its effect on the pharmacokinetic profile. This course also discusses Drug-Receptor interactions, Drug metabolism and drug design and discovery principles, in addition to studying some therapeutically specific drugs

Medicinal Chemistry (2) (131703424)- 2 credit hours. (131703323)

The aim of this course is to introduce the students to the medicinal chemistry of the Central nervous system, the autonomic nervous system, and the diabetic drugs. Also, this course represents the medicinal chemistry of the chemotherapeutic agents and the anticancer drugs.

Practical Medicinal Chemistry (131703425)-1 Credit hours-(131703424 or Concurrent)

This course aims towards allowing the students to practice the concepts that they acquired during the chemistry and organic chemistry courses in order to perform multistep synthesis of selected medicinal compounds. The students will also master a variety of purification methods (Crystallization techniques) to purify the synthesized medicinal compounds during this course.