

Faculty of Pharmacy
Al-Isra University
Master program in Pharmaceutical Sciences
2009/2010

Course Description

(701500) Methodology of Scientific Research (3 C. H.):

This course focuses on the basic principles of scientific research, literature review, ethics and writing proposals.

(701511) Advanced Biopharmaceutics (3 C. H.):

Advances treatment of factors affecting drug availability from dosage forms, rate limiting step in drug absorption, the influence of the route of administration and the dosage regimen of drug availability, formulation factors affecting drug dissolution, and study of the physicochemical nature of drug.

(701514) Pharmaceutical Microbiology (3 C. H.):

Is an advanced course in pharmaceutical microbiology, provides students with required knowledge about the science of microbiology which include various aspects about different types of sterilization methods and quality assurance in manufacture and control of sterile products with special interest in minimizing microbial risk in pharmaceutical products, these will provide with lectures in : microbial enumeration tests, tests for specific microorganisms, acceptance criteria for pharmaceutical preparations and substances of pharmaceutical use , antimicrobial effective testing , bacterial endotoxin test. The course also provides knowledge on application of water activity determination of non-sterile products & microbial enumeration tests for nutritional & dietary supplements.

(701515) Drug Design and Synthesis (3 C. H.):

This course explains & discusses different approaches to develop & discover new drugs. Including the different approaches to discover new lead compounds & methods to optimize them. Also the course will cover the different approaches to modify the photochemical properties in order to get new drugs.

(701517) Chemistry of Natural Products (3 C. H.):

This course comprehensively covers the different classes of natural products from a biosynthetic point of view. Classes like polyketide, terpenes, phenolics, and amino acid derived natural products.

(701519) Pharmaceutical biotechnology (3 C. H.):

The content of this course is specifically tailored to the theory and application of biotechnology procedures related to the development and delivery of biopharmaceuticals.

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(701520) Medicinal Chemistry (3 C. H.):

The course explains & illustrates the deferent aspects of drugs as clinical initiation. It includes the study of "SAR" in addition to the mechanism of action of drugs. Topics of this course include chemotherapeutic agents as well other agents such as drugs acting on C.N.S, digestive system ... etc.

(701521) Science and Technology of drug delivery Systems I (3 C. H.):

This course will cover design and fabrication of currently utilized devices for controlling the release of drugs to the human body. A wide variety of drug delivery system designs will be analyzed in this course. Mechanisms and kinetics of drug release from these systems, structure and properties of fabrication materials, principles of molecular diffusion across polymer barriers and transport across biological interfaces will be covered.

(701522) Organic Pharmaceutical Chemistry (3 C. H.):

An advanced study of the structure of organic compounds and mechanisms of organic reactions. Chemical bonds on the basis of molecular orbital theory, aromaticity. Methods of study organic mechanisms of selected reactions concerted reactions, photochemical reactions, and charge transfer reactions.

(701523) Phytotherapy (3 C. H.):

This course covers the use of herbal drugs as an alterative or complementary therapy. The most popular herbal drugs are studied in terms of its pharmacology and pharmacy practice.

(701524) Cosmetology (3 C. H.):

This course gives the students an idea about cosmetic formulation; the manufacture of products of natural and synthetic origin -for the cosmetic use - with therapeutic focus- as well as in quality control in the manufacture and sale of products with application in the cosmetic arena.

(701526) Science and Technology of drug delivery Systems II (3 C. H.):

This course will provide novel drug delivery systems like microparticles, nonoparticles, liposome, noisome resealed erythrocytes, transdermal drug delivery, colon specific drug delivery, pro-drugs, Design of Peptide and Protein Drug Delivery Systems, Gene as drug delivery system.

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(701527) Physical pharmacy (3 C. H.):

An advanced study in physico-chemical properties molecular structure, solubility of drugs, diffusion and dissolution from dosage forms, their stability and study analysis. Complication and aquaria in solution & study of interfacial phenomena.

(701528) Drug evaluation and analysis (3 C. H.):

The aim of this course is to provide the student with a good knowledge on how to evaluate the drug action by different biological or pharmacological analysis and evaluate the action of the drugs on the analysis data.

(701356) Clinical Pharmacology Therapeutics (3 C. H.):

This course aims to provide the student with advanced understanding of mode of action of drugs, factors modifying drug response, adverse effects, drug interaction, with enough knowledge that ensue the patients as receiving the best medication with duff understanding of pharmacology effects, the diagnosis and clinical evaluation of various systemic diseases and their complication.

(701537) Pharmaceutical Biostatistics (3 C. H.):

The course includes the basic principle of statistics with problem solving practice using basics procedures applicable to pharmaceutical biostatistics and their use to design scientific experiments and statistical testing for evaluation of drug potency or toxicity.