



كلية الصيدلة - جامعة الزيتونة الأردنية
Faculty of Pharmacy
Al-Zaytoonah University of Jordan

" نحو تعليم صيدلاني متميز "
Toward Excellence in Pharmaceutical
Education

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كلية الصيدلة
Faculty of Pharmacy



" عراقة وجودة "
"Tradition and Quality"

Brief course description- Course Plan Development and Updating Procedures\ Pharmacy Department	QF02/0409-3.0E
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Faculty	Pharmacy	Academic Department	Pharmacy	Number of the course plan (2021/2022)
Number of Major requirement courses	15	Date of plan approval		

This form is just for the major requirement courses

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201705	3	Research Methodology and Biostatistics	-

Brief description

This course will provide an opportunity for students to establish or advance their understanding of research through critical exploration of research design, ethics, and approaches. The course is designed to examine the procedures and principles involved with experimental research. Problem formulation, literature review, writing proposal, research design, writing a research paper, and concise oral presentation will be addressed. In addition, this course will provide a graduate level introduction to the use of the computer as a health science research tool. It will introduce students to basic methodological and statistical issues in managing and analyzing data using specific and sophisticated computer applications such as SPSS. Students will also calculate needed statistics for reaching correct and sound conclusions about research hypotheses

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201766	3	Advanced Pharmaceutical Technology	-

Brief description

This course focuses on the learning of the latest advanced in pharmaceutical technologies, dosage forms, formulation characterization techniques. Also, it aims to introduce the student into the challenges faced by the industrial sectors and seek innovative solutions to meet the end user demands.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201726	3	Clinical Pharmacology and Therapeutics	-

Brief description

The course describes the recent pharmaceutical instruments and techniques used in pharmaceutical analysis. Including both separation techniques such as capillary electrophoresis and chromatography. In addition to spectroscopic techniques such as UV-Vis, Fluorescence, Atomic, IR, NMR and MS.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201741	3	Advanced Pharmaceutical Analysis	-

Brief description

The course describes the recent pharmaceutical instruments and techniques used in pharmaceutical analysis. Including both separation techniques such as capillary electrophoresis and chromatography. In addition to spectroscopic techniques such as UV-Vis, Fluorescence, Atomic, IR, NMR and MS.

Course	Credit hours	Title of the course	Prerequisite
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number			*Co-requisite
0201743	3	Advanced Medicinal Chemistry and Drug Design	-

Brief description

This course is designed to impart the knowledge in computational methods and drug design approaches. It aims to build students' knowledge in theoretical chemistry and its application in drug design. It is proposed to provide students with an understanding of hit discovery, lead identification, lead optimization, target selection, and molecular recognition employing computer-aided drug design software. And, it will shed the light on computer-based methods, combinatorial chemistry, high-throughput screening, and database mining. Additionally, different drug classes will be discussed regarding structure-activity relationship (SAR), synthesis, and metabolism.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201765	3	Advanced Biopharmaceutics & Pharmacokinetics	-

Brief description

This course is intended to familiarize the student with the pharmacokinetics of the ADME (Absorption, Distribution, Metabolism and Excretion) process. It also teaches the students to evaluate the plasma concentration of medications after multiple dosage administration, hence, helps the students to design a safe and effective dosage regimen. Nonlinear pharmacokinetics and in vivo/ in vitro correlation are also covered in this course.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201700	3	Advanced Pharmaceutical Organic Chemistry	-

Brief description

This course is designed to address the mechanistic, theoretical and synthetic aspects of a broad range of reactions utilized in organic chemistry. Classical reactions and developed reactions will be reviewed with examples from the literature. It will explore the stereochemical features including conformation and stereoelectronic effects; reaction dynamics, isotope effects and molecular orbital theory applied to pericyclic and photochemical reactions; and special reactive intermediates including carbenes, carbanions, and free radicals.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201711	3	Advanced Clinical Biochemistry	-

Brief description

Special branch of medicine dealing with measurement and interpretation of the physicochemical condition and dynamics in healthy and diseased humans. This course explain the composition and measurement of the secretions, excretions and fluids of the human body in the health and the disease. This course also explain all metabolic processes in relation to their physiological and pathological changes in human. To understand the analysis of body fluids, cells and sometimes tissues, together with interpretation of the results of analysis, as well as the knowledge and skills necessary for management



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of a clinico-chemical laboratory.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201724	3	Pharmacogenetics	-

Brief description

Pharmacogenetics is the study of how the genome affects the drugs response. This science plays a major role in personalized therapy, through improving efficacy and safety. Pharmacogenetics combines pharmacological science with specific knowledge of genes, proteins, and single nucleotide polymorphisms. This course is designed to equip students with knowledge of the principles, concepts, and practical implications of pharmacogenetics.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201744	3	Natural Products	-

Brief description

The course discusses the most pharmaceutically important Natural Products from natural sources of pharmaceutical interest. It provides an advanced knowledge about the phytochemical natural sources, classification, structures, groups and subgroups, extraction, detection, separation, isolation, and pharmacological and toxicological effects.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201764	3	Pharmaceutical Biotechnology	-

Brief description

This course covers the current topics in pharmaceutical biotechnology focusing on transforming small molecules, proteins, and genes into therapeutic products. The course also includes new drug therapies, drug design, pharmacogenomics, molecular modeling, high throughput screening, production and stability considerations, and delivery systems of protein and gene therapeutics in relation to pharmacokinetic and therapeutic responses.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201768	3	Advanced Drug Delivery	-

Brief description

This course will discuss the engineering of novel pharmaceutical delivery systems, with an emphasis on the design and application of materials that overcome drug delivery barriers or challenges. Topics will discuss various materials and formulations for drug delivery and their applications.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201725	3	Advanced Therapeutics	-

Brief description

This course is intended to discuss the most recent advances in clinical therapeutics of selected diseases



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affecting different organs and systems with a special emphasis on the role of pharmacist. Topics include the treatment of female reproductive system, various infectious diseases, ulcerative colitis and Crohn's disease, multiple sclerosis, substances of abuse-related disorders, chemotherapy, and psoriasis.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201767	3	Advanced Pharmaceutical Microbiology	-

Brief description

This course is designed specifically to the most important topics of pharmaceutical microbiology. It reviews the impact of microbiology on many aspects of pharmaceutical manufacture and control. This course looks at the nature of microorganisms, contamination sources and control, sterilization and disinfection, and testing methodology (including modern counting and identification techniques). It will also cover some group aspects related to the microbiology laboratory.

Course number	Credit hours	Title of the course	Prerequisite *Co-requisite
0201707	3	Advanced Organic Chemistry	-

Brief description

This course is designed to address the mechanistic, theoretical and synthetic aspects of a broad range of reactions utilized in organic chemistry. Classical reactions and developed reactions will be reviewed with examples from the literature. It will explore the stereochemical features including conformation and stereoelectronic effects; reaction dynamics, isotope effects and molecular orbital theory applied to pericyclic and photochemical reactions; and special reactive intermediates including carbenes, carbanions, and free radicals.

Approved by department council		Date of approval	
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