



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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Faculty of Pharmacy



"عراقة وجودة"
"Tradition and Quality"

Brief course description- Course Plan Development and Updating Procedures\
Pharmacy Department

QF02/0409-3.0E

كلية الصيدلة - جامعة الزيتونة الأردنية Faculty of Pharmacy Al-Zaytoonah University of Jordan	Pharmacy	Academic Department	Pharmacy (Pharmaceutical Sciences (Master Program))	Number of the course plan (2021/2022)
Number of Major requirement courses		Date of plan approval	12/08/2021	

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 will provide an overview of the principles and processes involved in the design and development of solid dosage forms on the industrial scale, including the characterization of drug substances and excipients, biopharmaceutical considerations, rational design of oral dosage forms, and emerging pharmaceutical technologies.

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

Brief description

This course is intended to discuss the most recent advances in pharmacology of the most important drugs that affect different organ systems with a special emphasis on the treatment of patients from the pharmaceutical point of view. This course will cover the following topics:

- Drug Therapy of Alzheimer disease.
- Drug Therapy of Parkinson disease.
- Drug Therapy of Schizophrenia
- Drug Therapy of Epilepsy.
- Drug Therapy of Depression.
- Drug Therapy of Heart failure.
- Drug Therapy of Asthma.
- Drug Therapy of Diabetes and its complications.

Drug Therapy of Hypertension.



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

Brief description

This course is designed to provide students with required knowledge about the most important techniques used in pharmaceutical analysis. It describes the principles and applications of the most commonly used spectroscopic techniques such as UV-Vis, MES, AAS, AES, IR, NMR and Mass spectroscopies. In addition to separation techniques such as chromatography and capillary electrophoresis.

Course number	Credit hours	Title of the course	Prerequisite-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 and Pharmacokinetics	

Brief description

This course is intended to familiarise 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.



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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 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 is designed to introduce the students to different types of polymers used in the drug delivery systems with the emphasis on those utilized in controlled-release drug delivery systems and stimuli-responsive polymers. Delivery systems such as hydrogels, inorganic nanoparticles, and protein and gene delivery will be discussed in this course. Additionally, this course will shed a light on the characterization techniques employed during the development of the drug delivery systems.			



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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 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.

Approved by department council	د. أسماء أبو صرة -	Date of approval	12/8/2021
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