

T6. Course Specification (CS)

Institution: Najran University	Date 19/12/1438 H.
College/Department : College of Pharmacy / Department of Pharmacology	

A. Course Identification and General Information¹ :

1. Course title and code :	Pharmacology-1 (PHCL-342)		
2. Credit hours :	2+1		
3. Program(s) in which the course is offered.	Pharmaceutical Sciences (B. Pharm. Sc.)		
(If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course:	Dr. Basel A. Wahab; Mr. Masood Medleri Khateeb		
5. Level/year at which this course is offered:	3rd year , 6th Level students		
6. Pre-requisites for this course (if any):	Physiology (PHYS 283)		
7. Co-requisites for this course (if any) :	NIL		
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage	<input type="text" value="100"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage	<input type="text"/>
Comment:			

عليه تعليق [T1]:
ماذا عن تدريس الجزء العملي من المقرر ؟

B. Objectives

1. What is the main purpose for this course
 - Discuss the general principles of pharmacokinetics and fate of drug in the body.
 - Discuss the general principles of Pharmacodynamics and drug mechanism of action.
 - Discuss the effect, mechanism of action, uses, interactions, adverse effects and precautions of the drugs affecting autonomic nervous system, cardiovascular system and drug acting blood
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)
 - This course will be well maintained through periodic updating based on the recent developments in the pharmacy profession either through the internet and the online sources or through recent publications.
 - Used diagrammatic explanation where ever is required.
 - Use of example during explanation for easy and better understanding of students

C. Course Description (Note: General description in the form used in the Bulletin or handbook should be attached).

Course Description:

This course includes studying of the general principles of pharmacology, the mechanism(s) of therapeutic agents of the commonly used drugs and the encountered chemicals. Drugs used in Organophosphorous poisoning, and drugs effective in the treatment of hypertension, heart failure and other CVS drugs will be discussed. Management of disorders related to blood also will be studied.

1. Topics to be Covered :

List of Topics	No. of Weeks	Contact Hours
Introduction to pharmacology	1	2
Drug receptors and pharmacodynamics	1.5	3
Pharmacokinetics	1	2
Introduction to autonomic nervous system	0.5	1
Cholinomimetics and cholinesterase inhibitor	1	2
Cholinoreceptor blocking drugs	1	2
Adrenoceptor activating and other sympathomimetic drugs	1	2
Adrenoceptor blocking drugs	1	2
Diuretics	1	2

Antihypertensive drugs	1	2
Treatment of angina pectoris	1	2
Treatment of heart failure	1	2
Agents used in cardiac arrhythmias	1	2
Agents used in anemias; hematopoietic growth factors	0.5	1
Drugs used in disorder of coagulation	1	2
Agents used in hyperlipidemia	0.5	1
1.1 Topics to be Covered: Practical		
List of Topics	No. of Weeks	Contact Hours
Introduction to Experimental Pharmacology	1	2
Drug dosage forms	1	2
Channels of drug administration	1	2
Drug metabolism: The liver microsomal enzyme system	1	2
Pharmacokinetic models of drug metabolism	1	2
Pharmacodynamic model: drug receptor interaction and signal transduction mechanism.	1	2
Dose-response curve	1	2
Effect of autonomic drugs on rabbit Eye	1	2
Effect of autonomic drugs on frog heart-1	1	2
Effect of autonomic drugs on frog heart-2	1	2
Effect of autonomic drugs on dog blood pressure-1	1	2
Effect of autonomic drugs on dog blood pressure-2	1	2
Effect of spasmogens and spasmolytics on isolated rabbit intestine.	1	2
Prescription order writing	1	2
Revision	1	2

1.Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	2	-	-	2	-	4
Credit	2	-	-	1	-	3

[T2]: 30 تعليق عليه

[T3]: 30 تعليق عليه

[T4]: 60 تعليق عليه

3-Additional private study/learning hours expected for students per week

6-8

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table)

Second, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes.

Third, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain).

Code	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Outline the basic principles of Pharmacology, pharmacokinetics and pharmacodynamics, the various routes of drug administration, drug interaction and adverse drug reaction.	<ul style="list-style-type: none"> Combination of lectures and practical. Individual and group assignments using print media and web based materials. Computer-based and simulation learning. 	<ul style="list-style-type: none"> Multiple choice and essay tests. Laboratory reports examination. Assignments and quizzes
1.2	Describe the pharmacological properties of drugs included in autonomic nervous system, cardiovascular system and blood.		

[T5]: Final And Periodical Exams تعليق عليه

Code	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
		<ul style="list-style-type: none"> Practical labs demonstrations (look and listen). 	
2.0	Cognitive Skills		
2.1	Summarize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions associated with autonomic nervous system.	1- Tutorials include discussion of issues and problems to which analytical skills taught could be relevant.	<ul style="list-style-type: none"> Critical thinking questions (CTQ). Integration questions. Laboratory examination and reports Problem-based learning questions (PBLQ).
2.2	Summarize the pharmacological basis of therapeutics in the proper selection and use of drugs associated with cardiovascular system and blood.	2- Practical labs. Demonstration (look and listen).	
2.3	Predict drug interactions and adverse drug reactions.		
3.0	Interpersonal Skills & Responsibility		
3.1	Use critical thinking, problem solving and decision making skills.	1- Group and individual projects. 2- Role plays tasks with group analysis of appropriate resolution. 3- PBL group projects.	1- PBL and case study report. 2- Formative assessment through workshop and feedback 3- Summative assessment through individual and group reports, seminars and poster presentation.
3.2	Choose ethical, legal and safety guidelines in handling of various drugs and chemicals.		
4.0	Communication, Information Technology, Numerical		
4.1	Operate computer to produce reports, assignment and to prepare oral presentations and also develop skill to use library and internet resources for self-directed learning.	The use of search engines on the internet for research projects.	<ul style="list-style-type: none"> Oral presentation. Practical exams.
5.0	Psychomotor		
5.1	Examine dose response of autonomic drug and cardiovascular effect on various organ system of body.	<ul style="list-style-type: none"> Practical classes. Tutorials. Computer assisted learning. 	<ul style="list-style-type: none"> Practical exam. Clinical case study. Practical record books.

[T6]: Final And Periodical Exams

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, Quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz-I	4th week	10%
2	Midterm Examination	8th week	20%
3	Quiz-2	10th week	10%
4	Practical Examination	16th week	20%
5	Final Examination (Theory)	17th week	40%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Office hours (5 hours per week + appointment).
- Help session (problem solving) : 2 hours per week
- Student counseling: as required per week.

عليه تعليق [T7]: تواريخ النشر

E. Learning Resources

1. List Required Textbooks: <ul style="list-style-type: none"> • B. Katzung. Basic & Clinical Pharmacology. 14th edition by B.G. Katzung. • Rang and Dale's Pharmacology. 8th edition by J Ritter, R Flower, G Henderson, H Rang. • Lippincott's Illustrated Reviews: Pharmacology, 6th Edition by K. Whalen. • Goodman and Gilman's: The pharmacological Basis of therapeutics. 13th edition by L. Brunton, B. Knollmann, R. Hilal-Dandan.
2. List Essential References Materials (Journals, Reports, etc.) <ul style="list-style-type: none"> • British journal of Pharmacology. • Pharmacological Reviews. • Indian journal of Pharmacology. • Pharmacology and Therapeutics. • Journal of Pharmacology and Experimental Therapeutics. • Journal of Psychopharmacology.
3. List Electronic Materials Web Sites, Facebook, Twitter, etc. <ul style="list-style-type: none"> • Pub Med

<ul style="list-style-type: none"> • Science direct. • Medscape. • Youtube. • Wikipedia. • Medline Pus. • MedicineNet. Com. • Mayo clinic.
<p>4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.</p> <ul style="list-style-type: none"> • Ex-pharm. • Power Lab System. • Drug metabolism Model. • Pharmacodynamics and drug receptor Model

F. Facilities Required

<p>Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)</p> <ul style="list-style-type: none"> • A lecture room containing at least 30 seats • A laboratory to accommodate 30 students.
<p>1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)</p> <ul style="list-style-type: none"> • No of classrooms: 2 (B-103, B-104) • No of Laboratories: 05 (C-066, C-067, C-075, C-079, C-102) • Instruments: Isolated organ bath, Power-Labs, Passive avoidance, Analgesimeter, Rota-rod, Hot/Cold-plate, Plethysmograph, Water maize. • Chemicals: Fine chemicals, pure drugs for animal and tissue experiments. • Medical drug samples for identification. • Data show. • Smart Board. • 10 computers. • Computer software listed above.
<p>2. Computing resources (AV, data show, Smart Board, software, etc.)</p> <ol style="list-style-type: none"> 1. Computer Labs. 2. Internet and WIFI access . 3. Saudi Digital Library. https://sdl.edu.sa/SDLPortal/en/Publishers.aspx
<p>3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list).</p>

G. Course Evaluation and Improvement Processes:

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none"> • Course evaluation by students • Faculty – students general meeting • Taking feedback by using questionnaires.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the department. <ul style="list-style-type: none"> • Peer consultation on teaching • Group discussions with the faculty teaching lectures. • Analyzing course portfolio.
3. Processes for Improvement of Teaching: <ul style="list-style-type: none"> • Taking Courses presented by experts on the teaching methodologies • Periodical departmental revisions on its methods of teaching • Taking feedback from student and try to fulfill the gap. • Attending conferences, symposia, workshops.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"> • Course report, program of measurement of KPIs of electronic course, external reviewers, course portfolio. • Comparing materials with exam, random rechecking of examination papers by members and head of the department.
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement : <ul style="list-style-type: none"> • The course material and learning outcome are periodically reviewed and changes to be made are discussed in the department and higher councils. • Course portfolio, KPIs. • Trend analysis.

تعليق [T8]:

Monitoring and Evaluating the strategies of teaching and Assessment
Monitoring and Evaluating the strategies of Measuring the Achievement of the Course Intended Learning Outcomes

Name of instructor : Dr. Basel A. Abdel-Wahab; Mr. Masood Medleri Khateeb

Signature :



Date Report Completed: 20/04/1439 H.

Name of field experience teaching staff: Pharmacology and toxicology

Program coordinator: Dr. Ashraf M. Mahmoud.

Signature: _____ **Date received:** _____