

# Course Specification

College: **College of Pharmacy**

Institution: **King Saud University**

Department: **Department of Pharmacology**

Degree: **B. SC.**

## A Course Identification and General Information

Course code	Course title	Credit Hours			
		Lecture	Lab.	Other	Credit
<b>PHL 461</b>	<b>Pharmacology-4</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>2</b>
Pre-requisites for this course: <b>(PHL 452)</b>					
Co-requisites for this course (if any):					
Level/year at which this course is offered: <b>9<sup>th</sup> semester</b>					
Name of faculty member responsible for the course: <b>Dr. Mohamed M. Sayed-Ahmed, Dr. Wael H. Mansy, Dr. Kamal Al-Taher</b>					

## B Objectives

### 1. Summary of the main learning outcomes for students enrolled in the course.

- To gain awareness and understanding of the different types of neoplasms.
- To understand the various mechanisms, side effects and limitations of the available anticancer drugs.
- To gain knowledge regarding the clinical treatment protocols of selected tumours,
- To understand the molecular basis of biological and targeted therapy of cancer.
- To know the advantages and limitations of the currently used immunostimulants and immunosuppressants
- Identify types of hypertension with special concern on essential type.
- Classify different classes of antihypertensive drugs and correlate each class for its proper clinical use,
- Know different types of cardiac arrhythmias and their possible clinical consequences.
- Correlate the useful anti-arrhythmic treatment to all types of cardiac arrhythmia.
- Identify different types of Diabetes Mellitus.
- Classify different anti-diabetic drugs according to their mechanism of action.
- Choose the proper treatment of different diabetic patients.
- Enumerate different clinical types of shock.
- Concentrate on general measures done to shocked patients with emphasis on specific treatment according to type of shock.
- To gain knowledge regarding the different mediators of asthma.
- To comprehend the differences between myocardial infarction and anginas.
- To gain awareness and understanding of molecular-cellular basis that underlay congestive heart failure.
- To appreciate the different limitations of drugs available for treatment of cardiac disturbances.

2. Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Providing Updated software and infrastructure.

### C. Course Description

**The course concept is the application of pharmacological knowledge as a basis of drug therapy in disease states. It deals with the study of different drug modalities in different disease states aiming to prevent, cure or ameliorate the disease. The study includes the mechanisms of action, posology, side effects and contraindications of drug groups as well as the advantages, disadvantages and special merits of each individual drug in the treatment of disease states.**

#### 1. Topics to be Covered

Topic	Weeks	Contact hours
Types and pathophysiology of hypertension	0.5	1
Anti-hypertensive drugs	0.5	1
Management of patients with hypertension	0.5	1
Types and electro-pathophysiology of cardiac arrhythmia	0.5	1
Classification and types of antiarrhythmic drugs.	0.5	1
Correlation of different cardiac arrhythmias with their suitable drug or non-drug treatment	0.5	1
Types and pathophysiology of diabetes mellitus	0.5	1
Anti-diabetic drugs	0.5	1
Management of patients with diabetes mellitus	0.5	1
Types, pathophysiology and management of shock	0.5	1
Non-pathogenic pulmonary diseases: Mediators involved and Treatment	1.5	3
Congestive Heart Failure: Causes and treatment	1	2
Myocardial Infarction : Causes and treatment	1.5	3
Anginas: Causes and treatment	1	2
Solid and non-solid tumours	1	2
Different classes of anticancer drugs	2	4
Biological and targeted therapy of cancer	0.5	1
Clinical treatment protocols of selected tumours	0.5	1
Immunostimulant and immunosuppressive drugs	1	2

#### Course components (total contact hours per semester):

Lecture:	Tutorial	Practical	Other
30	-	-	-

Additional private study/learning hours expected for students per week. (This should be an average for the semester not a specific requirement in each week)

**45 hours**

### **Development of Learning Outcomes in Domains of Learning**

**For each of the domains of learning shown below indicate:**

- A brief summary of the knowledge or skill the course is intended to develop;
- A description of the teaching strategies to be used in the course to develop that knowledge or skill;
- The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

#### **a. Knowledge**

**(i) Description of the knowledge to be acquired**

- **Differentiation of the different types of cancer and their treatment.**
- **Knowledge about drugs that stimulate and suppress immune system.**
- **Differentiation between different antihypertensive as regards their clinical use.**
- **Determination of proper antidiabetic drugs to different types of diabetes.**
- **Knowledge of different cardiac arrhythmias and their drug and non-drug treatment.**
- **Understanding the general and special principles of shock including types, pathophysiology and treatment.**
- **Knowledge about pathophysiology of bronchial asthma**
- **Understanding causes and treatment of heart failure, myocardial infarction and different types of angiana.**

**(ii) Teaching strategies to be used to develop that knowledge**

- **Lectures**

**(iii) Methods of assessment of knowledge acquired**

- **Exams**
- **Assignments**

#### **b. Cognitive Skills**

**(i) Cognitive skills to be developed**

- **Ability to collect information to help for problem solving.**

**(ii) Teaching strategies to be used to develop these cognitive skills**

- **Give students a problem that requires collecting information from internet.**

(iii) <b>Methods of assessment of students cognitive skills</b>
<ul style="list-style-type: none"> <li>• <b>Exams</b></li> <li>• <b>Reports</b></li> </ul>
<b>c. Interpersonal Skills and Responsibility</b>
(i) <b>Description of the interpersonal skills and capacity to carry responsibility to be developed</b>
<b>Not Applicable</b>
(ii) <b>Teaching strategies to be used to develop these skills and abilities</b>
<b>Not Applicable</b>
(iii) <b>Methods of assessment of students interpersonal skills and capacity to carry responsibility</b>
<ul style="list-style-type: none"> <li>• <b>Group Assignment</b></li> </ul>

<b>d. Communication, Information Technology and Numerical Skills</b>
(i) <b>Description of the skills to be developed in this domain.</b>
<b>Not Applicable</b>
(ii) <b>Teaching strategies to be used to develop these skills</b>
<b>Not Applicable</b>
(iii) <b>Methods of assessment of students numerical and communication skills</b>
<ul style="list-style-type: none"> <li>• <b>Exams</b></li> </ul>

<b>e. Psychomotor Skills (if applicable)</b>
(i) <b>Description of the psychomotor skills to be developed and the level of performance required</b>
<b>Not Applicable</b>
(ii) <b>Teaching strategies to be used to develop these skills</b>
<b>Not Applicable</b>
(iii) <b>Methods of assessment of students psychomotor skills</b>
<b>Not Applicable</b>

<b>5. Schedule of Assessment Tasks for Students During the Semester</b>			
<b>Assessment</b>	<b>Assessment task (eg. essay, test, group project, examination etc.)</b>	<b>Week due</b>	<b>Proportion of Final Assessment</b>
1	<b>First midterm exam</b>	<b>7</b>	<b>30</b>
2	<b>2<sup>nd</sup> midterm exam</b>	<b>13</b>	<b>30</b>
4	<b>Final exam</b>	<b>16</b>	<b>40</b>

#### D. Student Support

Arrangements for availability of faculty for individual student consultations and academic advice. (include amount of time faculty are available each week)

- Faculty web-page with communication tolls.
- office hours: 2

#### E. Learning Resources

##### Required Text(s)

- Meyers, Burt R. (2002). Antimicrobial Therapy Guide. Publisher: Barnes and Noble ([www.bn.com](http://www.bn.com))

##### Essential Reference

- Skeel, Roland, T. Handbook of Cancer Chemotherapy. Publisher: Barnes and Noble
- ElTahir, K.E.H. (2008). The Pharmacology of Essential Drugs. Dar Al-Iloom. Riyadh

##### Recommended Books and Reference Material (Journals, Reports, etc) (Attach List)

- European Journal of Pharmacology
- Cancer Chemotherapy and Pharmacology
- Pharmacological Reviews, Black Well, N.Y.

##### Electronic Materials, Web Sites etc

[www.PubMed.com](http://www.PubMed.com)

#### F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)

##### 1. Accommodation (Lecture rooms, laboratories, etc.)

- Lecture room (30)

##### 2. Computing resources

- Internet access

##### 3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list)

**Not Applicable**

<b>G Course Evaluation and Improvement Processes</b>	
<b>1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching</b>	<ul style="list-style-type: none"> <li>• <b>Students evaluation in each semester</b></li> <li>• <b>Meeting with students</b></li> <li>• <b>e- suggestions</b></li> <li>• <b>Open door policy</b></li> </ul>
<b>2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department</b>	<ul style="list-style-type: none"> <li>• <b>Self evaluation</b></li> </ul>
<b>3. Processes for Improvement of Teaching</b>	<ul style="list-style-type: none"> <li>• <b>Studying reports</b></li> </ul>
<b>4. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent faculty member of a sample of student work, periodic exchange and remarking of a sample of assignments with a faculty member in another institution)</b>	<b>Not Applicable</b>
<b>5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.</b>	<ul style="list-style-type: none"> <li>• <b>Collecting all reports and evaluations at the end of the semester for a reviewing purpose.</b></li> </ul>