

In addition to Part I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

**Course No. : PHA F311**

**Course Title : Pharmacology and Toxicology (Part-1)**

**Instructor in charge : Onkar Kulkarni**

**Team of Instructors : Kavitha Sedmaki, Kalyani Karnam, Pravesh Sharma**

**1) Scope & Objective of the Course:**

This course will make students understand the pharmacology of important classes of drugs including their mechanism of action, therapeutic uses, side effects, toxic manifestations, indications and contraindications. This course is intended to impart the knowledge regarding the concepts of actions of drugs on various systems of the human body as well as to understand the effect of cellular process like metabolism, elimination and cellular permeability on the fate of the drug molecule inside the human body. The course covers mechanism of action, therapeutic uses, side effects, and contraindications of the drugs, which are commonly employed in therapeutics. The course also intends to make aware the students the recent happenings in the field of molecular Pharmacology, various screening techniques and novel treatments in the field of therapeutics.

**Learning Outcomes (course benefits): Students who have undergone the course are expected to**

- Understand the molecular pharmacology of drugs used for the treatment of various diseases
- Understand the rationale behind the side effects associated drug molecules
- Explain the rationale behind the observed drug interactions

**2) Text book:**

1. Tripathi KD, Essentials of Medical Pharmacology, Sixth edition, Jaypee brothers, New Delhi, 2008

**Reference Books:**

1. Katzung BG, Basic and Clinical Pharmacology, 12th edition, Prentice Hall, London, 2001

2. Goodman & Gilman's The Pharmacological Basis of Therapeutics, by JG Hardman (Editor), 10th edition, McGraw-Hill Publishing Co, 2001.

### 3) Course Plan:

Lect. No.	Learning Objectives	Topics to be covered	Chapter in the Text Book
1-7	1. To understand the scope and role of pharmacology in drug discovery 2. To understand the mechanism of <b>drug receptor interaction</b> 3. To understand the <b>pharmacokinetic</b> parameters affecting the fate of drug within the body	Introduction, Scope and important terms of Pharmacology and Toxicology	T1-Sec1, R1-Sec1, R2-Sec1
		Mechanisms of drug action	
		Introduction to Pharmacokinetics	
		Pharmacodynamics	
8-17	To understand the mechanism, side effects, drug interactions and therapeutic uses of drug molecules targeting <b>autonomic nervous system</b>	Introduction to nervous system	T1-Sec2, R1-Sec2, R2-Sec2
		Cholinergic drugs and cholinergic blockers	
		Adrenergic drugs and their blockers	
		Ganglionic and Neuromuscular blockers	
18-27	To understand the mechanism, side effects, drug interactions and therapeutic uses of drug molecules targeting <b>central nervous system</b>	Introduction	T1-Sec7, R1-Sec5, R2-Sec2
		General and Local anesthetics	
		Anxiolytic, sedatives	
		Antipsychotic and antidepressants	
		Anticonvulsants	

		Neurodegenerative diseases, Anti-Parkinson agents	
<b>28-30</b>	To understand the mechanism, side effects, drug interactions and therapeutic uses of drug molecules targeting small <b>molecule mediators of inflammation (autocoids)</b>	Autacoids and antihistaminic drugs	T1-Sec3, R1-Sec4, R2-Sec5

Particulars of Experiments	No of Practical Sessions
<ul style="list-style-type: none"> <li>Understanding the protocol and theory of pharmacological assays using animal simulator software</li> <li>Demonstration of animal handling and routes of drug administration</li> </ul>	12

#### 4) Evaluation Scheme:

Component	Duration	Weightage	Date	Time	Nature of Component
Pre Mid-term Quiz/Assignment	30 mins	7 %	Surprise quiz		CB
Mid-term Test	90 mins	25 %	28/9	11.00 -- 12.30 PM	CB (80%) OB (20%)
Post Mid-term Quiz/Assignment	30 mins	8 %	Surprise quiz		CB
Compre. Exam.	3 hrs	40 %	2/12	AN	CB (75%) OB (25%)
<b>Laboratory Component</b>					
Day to day work (Includes marks for Attendance, Lab Record & Viva-voce)	-	10 %	-		OB
Lab. Compre.	-	10 %	Will be announce in Lab Sessions		CB

CB - Closed Book, OB – Open Book

**5) Mid-Semester Grading:** Will be announced after Mid-term test.

**6) Make-up:** Prior approval or intimation to take a make-up is mandatory. It is solely at the discretion of the instructor-in-charge, depending upon the genuineness of the circumstances, to allow or disallow a student to appear for a make-up evaluation component. No makeup will be granted for Assignments/Quizzes under any circumstances.

**7) Grading Procedure:**

- Grading will be done by “bunching” procedure. Total marks obtained by the students will be arranged in descending order, ‘bunches’ will be identified and grades awarded accordingly. Fine grading system (A, A-, B, B-....) will be followed.
- It is not mandatory for the instructor-in-charge to award all the grades (A to E); subjective judgment will be used for awarding the grades.
- As specified in Handout – Part I, appended to the timetable, the instructor in-charge reserves the right to award a NC report in case the student does not make himself/herself available for any of the evaluation component mentioned above.
- Borderline cases during grading will be judged on the basis of regularity to classes and consistency or progress in the performance in evaluation components.

**8) Chamber Consultation Hours:** To be announced in class.

**9) Notices:** All the notices pertaining to this course will be displayed only on Dept. of Pharmacy Notice Board.

**Academic Honesty and Integrity Policy:** Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

**Instructor-in-charge**  
**PHAF311**