PHARM 155 Course Outline as of Fall 2013

CATALOG INFORMATION

Dept and Nbr: PHARM 155 Title: PHARMACOLOGY
Full Title: Pharmacology
Last Reviewed: 8/26/2024

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	4.00	17.5	Lecture Scheduled	70.00
Minimum	4.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 140.00 Total Student Learning Hours: 210.00

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
This course introduces the pharmacology technician student to the historical development of the use of medicinal drugs, the basic mechanism of drug action, pharmacokinetics and basic concepts related to the administration of pharmacologic agents. Therapeutic effects of identified groups of drugs, their side effects, interactions and potential error sites are integrated throughout the course. Focus is on selected drug classes.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: This course introduces the pharmacology technician student to the historical development of the use of medicinal drugs, the basic mechanism of drug action, pharmacokinetics and basic concepts related to the administration of pharmacologic agents. Therapeutic effects of identified groups of drugs, their side effects, interactions and potential

error sites are integrated throughout the course. Focus is on selected drug classes. (Grade Only)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course, the student will be able to:
1. Identify common side effects / drug interactions within selected drug classifications.
2. Interpret brand and generic names from a selected list of drugs.
3. Identify appropriate routes of administration for commonly prescribed drugs.
4. Interpret common prescription errors and alert appropriate quality control pharmacist.

Topics and Scope:

I. Evolution of Medicinal Drugs
   A. Drug legislation
   B. Drug testing and approval
   C. FDA Food Health Claims
II. Introduction to Pharmacology
   A. Receptors / mechanisms of drug action
   B. Pharmacokinetics
   C. Drug effects
      1. Therapeutic
      2. Side effects
      3. Interactions
III. Administration of Pharmacologic Agents
   A. Five "Rights" for correct drug administration
   B. Dosage forms and routes
   C. Factors that influence drug effects
IV. Autonomic Nervous System Drugs
   A. Parasympathetic nervous system and cholinergic agents (parasympathomimetics)

- B. Sympathetic nervous system
  1. Adrenergic agents (sympathomimetics)
  2. Adrenergic blocking agents (sympatholytics)

V. Anti-infectives and Drugs for the Common Cold
- A. Antibiotics
  1. Fighting bacterial infections
  2. Antibiotic treatment and action
  3. Classes of antibiotics
     a. sulfonamides
     b. penicillins
     c. cephalosporins
     d. tetracyclines
     e. macrolides
     f. quinolones
     g. streptogrammins
     h. aminoglycosides
     i. miscellaneous antibiotics
- B. Antivirals
- C. Antiretrovirals
  1. Nucleoside reverse transcriptase inhibitors (NRIT's)
  2. Non-nucleoside reversed transcriptase inhibitors (NNTRI's)
  3. Protease inhibitors (PI's)
- D. Anti-fungals
  1. Topical
  2. Systemic
- E. Antihistamines
- F. Decongestants
- G. Antitussives
- H. Expectorants

VI. Cardiovascular Drugs
- A. Antiarrhythmics
  1. Membrane stabilizing agents (class I)
  2. Beta blockers (class II)
  3. Inhibitors of neurotransmitter release and reuptake (class III)
  4. Calcium channel blockers (class IV)
- B. Congestive Heart Failure
  1. Antiarrhythmics
  2. Vasodilators
  3. ACE inhibitors
  4. Angiotensin II antagonists
- C. Myocardial Infarction-Beta blockers
- D. Angina Pectoris
  1. Nitrates
  2. Calcium channel blockers
  3. Beta blockers
- E. Hypertension
  1. Diuretics
  2. Calcium channel blockers
  3. Ace inhibitors (angiotensin converting enzyme)

4. Angiotensin II - receptor antagonist
5. Beta blockers
6. CNS agents
7. Peripheral acting agents
8. Vasodilators

F. Anticoagulants and antiplatelets
1. Antiplatelet agents
2. Anticoagulant agents
3. Fibrinolytic agents

G. Hyperlipidemia
1. HMG-CoA reductase inhibitors
2. Fibric acid derivatives
3. Bile acid sequestrants

VII. Urinary System Drugs

A. Renal drug therapy
1. Erythropoietin therapy
2. Vitamin therapy
3. Phosphate binders

B. Urinary tract drugs
1. Urinary tract infection
2. Antispasmotic agents
3. Local anesthetics

C. Diuretics
1. Thiazides
2. Loop diuretics
3. Potassium - sparing
4. Carbonic anhydrase inhibitors
5. Osmotic diuretics

VIII. Topicals, Opthmolics and Otics

A. Common skin conditions
1. Acne
2. Itching
3. Psoriasis
4. Dandruff
5. Fungal infection
6. Poison Ivy
7 Otopic dermatitis
8. Lice

B. Opthalmics
1. Antibiotics
2. Corticosteroids
3. Anti-fungal
4. Antivirals
5. Agents to treat glaucoma

C. Otics
1. Analgesics
2. Antibiotics
3. Wax dissolvers

IX. Narcotic Pain Relievers and Other Nervous System Drugs

A. Anesthetics, analgesics and narcotics
1. General Anesthetics
2. Pain Management

a. narcotics and opiates
b. addiction and dependence
c. combination drugs for managing pain

3. Migraine Headaches
a. selective 5-HT, receptor agents
b. ergot preparations
c. antiemetic agents
d. opioid analygesics

B. Antidepressants, antipsychotics and antianxiety agents

1. Antidepressants
a. Selective serotonin reuptake inhibitors
b. Tricyclic antidepressants
c. Monamine Oxidase Inhibitors
d. Drugs used in Bipolar disorders

2. Antipsychotics
3. Antianxiety agents
a. panic disorders
b. sleep disorders

C. Anticonvulsants and drugs to treat other nervous system disorders

1. Antiepileptic drug therapy
2. Anti-Parkinson agents

X. Respiratory Drugs

A. Asthma
B. Emphysema and chronic bronchitis

XI. Gastrointestinal Drugs

A. Peptic ulcer disease
B. Antidiarrheals/Constipation
C. Anti-inflammatory drugs
D. Parasites

XII. Non-narcotic analgesics and muscle relaxants

A. Salicylates
B. Nonsteroidal anti-inflammatory drugs
C. Muscle relaxants

XIII. Hormones

A. Thyroid
B. Adrenal sex hormones
C. Corticosteroids
D. Hypoglycemic agents
E. Growth Hormone
F. Female Hormones
G. Contraceptives

XIV. Chemotherapy

A. Recombinant DNA agents
B. Chemotherapy agents

1. Alkylating agents
2. Antimetabolites
3. Nitrogen mustards
4. Plant alkaloids
5. Topoisomerase I inhibitors
6. Miscellaneous agents
7. Cytoprotective (rescue) agents

C. Drugs used for mucositis
XV. Vitamins and Nutritional Supplements
A. Total parental nutrition
B. Vitamins
C. Electrolytes
D. Natural supplements
XVI. Poisons and Antidotes
A. Antidotes
B. Supportive therapy
XVII. Code Blue Emergencies-Agents for cardiac emergencies

Assignment:

1. Reading assignments in textbook, (30-40 pages per week).
2. Complete review questions at end of each chapter (10-20).
3. Complete workbook activities.
4. Internet assignments at end of chapters as assigned.
5. Midterm, final exam and quizzes (10-15).

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Review questions and Internet assignments.	Writing 30 - 60%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None	Problem solving 0 - 0%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Midterm, final and quizzes.	Exams 40 - 70%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
Pharmacology Essentials for Technicians, Danielson, J., Paradigm, 2013