

**LANCASTER GENERAL COLLEGE OF NURSING AND HEALTH SCIENCES**  
**Program of Cardiovascular Invasive Specialty**

**CIS 240 SYLLABUS**

- I. Title: CIS 240 Cardiovascular Pharmacology
- II. Course Description: The purpose of this course is to provide the Cardiovascular Technology student with the fundamentals of Pharmacology and the most frequently used drugs in the invasive cardiovascular laboratory. Emphasis will be placed on basic principles including drug receptors, pharmacodynamics, pharmacokinetics, calculations, route of administration and assessing fluid and electrolyte status.
- III. Prerequisite: CIS 210, CIS 220
- IV. Co requisite: None
- V. Placement: Spring Term
- VI. Time Allotment: Theory 45 hours
- VII. Faculty: Nancy Kelly, RN, MSN  
Office: 3033-3<sup>rd</sup> floor, 430 N. Lime St., Phone: 544-4912, ext. 76975
- Rosemary Clem, RCIS, RN  
Office: LGH Cardiac Cath, Phone: 544-5511, ext. 45140
- Tamara Garrett, RN, RCIS  
Office: LGH Cardiac Cath, Phone: 544-5511, ext. 45140
- VIII. Credits: Three (3)
- IX. Evaluation: **Instrument**
- Exams  
Quizzes  
Assignments  
Final Exam
- \*A grade of "C" (2.0) is required to pass the theory portion of the course.**
- X. Textbooks: LeFever Kee, J. & Marshall, S. (2000). *Clinical Calculations* (5<sup>th</sup> ed.). St. Louis: Mosby.
- Lilley, Harrington, & Snyder. (2005). *Pharmacology and the nursing process* (4th. ed.). St. Louis: Mosby.

XI. Course Objectives: By the conclusion of the course the student will:

1. Apply terms used in pharmacology.
2. Contrast the preferred route of administration of specific drugs.
3. Apply the principle laws affecting medications.
4. Evaluate interventions used to correct specific fluid and electrolyte problems.
5. Administer medications safely under the direct supervision of the clinical instructor and/or physician medical practice act.
6. Accurately calculate correct dosages for a variety of pharmacological agents.
7. Apply the mechanism of action, drug effects, therapeutic uses, side effects/adverse effects, interactions, dosages and examples of drug outlined.
8. Apply drugs of choice used in specific emergency situations.
9. Demonstrate IV insertion skills.

XII. Program Policies: Students are held accountable for all policies in the Student Handbook and any revisions made to those policies during the academic year.

XIII. Policies and Procedures:

A. Importance of Attending Class

*Attendance is required for all classes.* Student will be regular and punctual in attendance for all scheduled classes. If a student finds it unavoidable to be tardy, leave early or absent from any class, the student must notify the Program Director or designee with an explanation prior to the start of class. All absences must be documented in writing and sent to the Program Director or designee. Failure to be in class on time will affect the class participation portion of your grade.

B. Student Responsibility for Missed Material

Students are responsible for all material presented and announcements made in class, regardless of attendance. It is the student's responsibility to obtain materials and assignments if absent.

XIII. Policies and Procedures (cont'd)

C. Unit Examinations

Examinations should only be missed in extenuating circumstances. A student who misses an examination will be required to make up the examination on the next day of lecture. Contact the instructor, prior to the

next lecture day to make arrangements to take the exam.

A student who misses an examination, regardless of the reason, will have ten percent (10%) deducted from the grade achieved on the exam.

Example: The exam is worth sixty (60) points; the student takes the exam and achieves a grade of 52/60. The score of 52 is then decreased by ten percent (10%) or five (5) points, thus the grade on the exam will be 47/60.

An alternate examination may be given for the make-up examination.

D. Class Behavior

Once class has started, the instructor has the prerogative not to admit students into lecture. Students will be dismissed from class for any inappropriate behavior.

E. Written Assignments

All submitted work must follow the *Publication Manual of the American Psychological Association (5<sup>th</sup> ed.)* unless directed otherwise by the course instructor.

F. Academic Dishonesty and Plagiarism

Academic dishonesty violates the spirit and purpose of an academic community, and is therefore subject to disciplinary action. Academic dishonesty includes cheating on examinations and unauthorized duplication of work.

Plagiarism is an act of academic dishonesty. Any work submitted that is not your own is an act of plagiarism. In preparing assignments, you must acknowledge in writing, any use of outside sources or any assistance you received in preparing an assignment. All written work must be submitted adhering to LGCNHS guidelines

If an instructor believes that a student has committed an act of academic dishonesty or has plagiarized material, the instructor will award a failing grade for that assignment to the student. If the occurrence is during an

examination, the student will receive a zero for that portion of their grade and must leave the room.

If the student disagrees with this decision, the student may follow the grievance procedure.

XIV. Revisions

This syllabus is subject to revision by the faculty at any time.

CONTENT	HRS	STUDENT ACTIVITIES	COURSE OBJECTIVE
<p>I. General Principles of Pharmacology</p> <p>A. Introduction to Drug Therapy</p> <ol style="list-style-type: none"> <li>1. Terms</li> <li>2. Sources of Drugs</li> <li>3. Pharmaceutical Preparations</li> <li>4. Pharmacokinetics</li> <li>5. Pharmacodynamics</li> <li>6. Pharmacotherapeutics</li> <li>7. Pediatric Pharmacology</li> <li>8. Geriatric Pharmacology</li> <li>9. Drug Interactions</li> </ol> <p>B. Psychological Aspects of Drug Therapy</p> <ol style="list-style-type: none"> <li>1. Attitudes and Beliefs</li> <li>2. Compliance, Noncompliance</li> <li>3. Self-Medication</li> </ol> <p>C. CIS's role in Drug Therapy</p> <ol style="list-style-type: none"> <li>1. Principles for Safe Preparation and Administration of Medications</li> <li>2. Procedures for Safe Administration of Medications               <ol style="list-style-type: none"> <li>a. Oral</li> <li>b. Topical</li> <li>c. Parenteral</li> </ol> </li> <li>3. Evaluating the Effects of Drug Therapy</li> <li>4. Charting</li> <li>5. Client Teaching</li> </ol> <p>D. CIS Implications</p> <ol style="list-style-type: none"> <li>1. Legal Issues</li> <li>2. Ethical Practice</li> <li>3. Cultural Aspects</li> </ol>	<p>3</p> <p>0.5</p> <p>2.5</p> <p>1</p>	<p><b>Required Readings:</b> Lilley, Harrington, Snyder, (L. H. S.) Chapters 2 &amp; 3</p> <p><b>Classroom Activities:</b> Lecture Discussion</p> <p><b>Required Readings:</b> L. H. S. Chapter 7</p> <p><b>Classroom Activity:</b> Discussion</p> <p><b>Required Readings:</b> L. H. S. Chapters 1, 5, 6, &amp; 9</p> <p><b>Required Readings:</b> L. H. S. Chapter 4</p> <p><b>Classroom Activity:</b> Lecture Discussion</p>	<p>1, 2</p> <p>3, 5, 6</p>

CONTENT	HRS	STUDENT ACTIVITIES	COURSE OBJECTIVE
<p>E. Medication Calculations (Basic Math Review)</p> <ol style="list-style-type: none"> <li>1. Administration Concepts</li> <li>2. Administration Procedures &amp; Routes</li> <li>3. Methods of Calculations</li> </ol>	3	<p><b>Required Readings:</b> LeFever Kee &amp; Marshall (L.M.) Independent Study (see L.M. Part 1)</p> <p>L.M.: Part II, Chapters 1-3 L.M.: Part II Chapter 4 L.M.: Part II-IV Chapters 5, 6, 7, 8, 9, &amp; 11</p> <p><b>Classroom Activity:</b> Lecture Discussion Practice Calculations</p>	6
<p>II. Fluids and Electrolytes</p> <ol style="list-style-type: none"> <li>A. Physiology of Fluid and Electrolyte balance               <ol style="list-style-type: none"> <li>1. Body Water</li> <li>2. Distribution of Fluid and Electrolytes in the body</li> <li>3. Balancing of Fluid Intake and Output</li> <li>4. Mechanisms Regulating Fluid and Electrolyte Balance</li> <li>5. Acid-Base Balance</li> </ol> </li> <li>B. Factors Affecting Fluid and Electrolyte Balance</li> <li>C. Assessing Fluid and Electrolyte Status</li> </ol>	5	<p><b>Required Reading:</b> L. H. S. Chapter 26</p>	4
<p>III. Mechanics of drawing-up medications</p>	2	<p>Demonstration</p>	5, 6, 7
<p>IV. Clinical Practice Scenarios</p> <ol style="list-style-type: none"> <li>A. Practice calculating and drawing-up medications</li> <li>B. Reinforce 7 rights of administration</li> </ol>	3	<p>Demonstration</p>	5, 6, 7
<p>V. Cardiac Glycosides</p> <ul style="list-style-type: none"> <li>Beta Blockers</li> <li>Ca<sup>+</sup> Channel Blockers</li> <li>ACE Inhibitors</li> <li>Catecholamines</li> <li>Aldosterone Antagonists</li> <li>Antidysrhythmic Agents               <ol style="list-style-type: none"> <li>A. Mechanism of action</li> <li>B. Indication</li> <li>C. Dosing</li> </ol> </li> </ul>	6	<p>L. H. S. Ch 17 - 21</p>	7

CONTENT	HRS	STUDENT ACTIVITIES	COURSE OBJECTIVE
D. Adverse effects E. Nursing considerations			
VI. Physiology of Allergic Reactions H <sub>1</sub> and H <sub>2</sub> Blockers Steroids Narcotics Benzodiazepines Reversal Agents	3	L. H. S. Ch 35-36  L. H. S. Ch 10 L. H. S. Ch 12	7
VII. Diuretics Antianginal/Vasodilator Agents Antihypertensive Agents	3	L. H. S. Ch 25 L. H. S. Ch 23 L. H. S. Ch 24	7
VIII. Coagulation Modifier Agents	3	L. H. S. Ch 27	7
IX. Antilipemic Agents	3	L. H. S. Ch 28	7
X. Miscellaneous Drugs Specific to Cath Lab	3		7
XI. Review of ACLS Drugs Code Simulation	3		7, 8