**LBCC Diagnostic Imaging Program**

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## PHARMACOLOGY FOR IMAGING

Winter 2019

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| **Instructor:** | Jennifer Clayton |
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| **Office Hours:** | By appointment; please email to set up a mutually convenient time. |

**REQUIRED TEXT**

*Pharmacology and Drug Administration for Imaging Technologists, Second Edition by Steven C. Jensen and Michael P. Peppers (provided)*

*ADDITIONAL TEXTS:*

*Bontrager*

**COURSE DESCRIPTION**

**This is an asynchronous course.** It is designed to coordinate with the other courses offered this term; some material may be redundant, but it is the pharmacological mistakes that kill people; so redundancy is an effective tool for remembering.

This course is designed to provide the basic concepts of pharmacology. Concepts of pharmacology including modes of action, uses, modes of excretion, side effects, and patient care required for specific pharmacologic agents will be covered.

***SCHEDULE:***

* **Students are expected to review weekly recorded lectures. Students are encouraged to set up a specific day and time each week to do this.** It is expected students will review all lectures.

**COURSE OBJECTIVES**

* Distinguish between chemical, generic, and trade names of select drugs
* Describe pharmacokinetic and pharmacodynamic principles of drugs.
* Explain the action, uses, and side effects for select drugs
* Define the categories of contrast agents and give specific examples for each category.
* Explain the pharmacology of barium and iodine compounds.
* Describe methods and techniques for administering various types of contrast agents.
* Differentiate between the two major sites of intravenous drug administration.
* Identify, describe and document complications associated with intravenous drug therapy and appropriate actions to resolve these complications.
* Describe pharmacokinetic and pharmacodynamic principles of drugs
* Identify and describe the various routes of drug administration
* Explain the current legal and ethical status of the radiographer’s role in drug administration

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| ***Week*** | ***Dates*** | ***Topic*** | ***Reading*** | ***Drug*** | ***Assignment*** | ***Assessment*** |
| 1 | 1/7-  1/11 | Principles of Pharmacology | Ch 1 & 2 | Barium sulfate | Drug Review & Study Guide Questions  **Due 1/11 @ 11:59 p.m.** | Quiz 1  **Due 1/11 @ 11:59 p.m.** |
| 2 | 1/14-  1/18 | Routes of Administration | Ch 8 | Gastroview | Drug Review & Study Guide Questions  **Due 1/18 @ 11:59 p.m** | Quiz 2  **Due 1/18 @ 11:59 p.m.** |
| 3 | 1/21-  1/25 | Infection Prevention & Control | Ch 9 | Conray & Cystoconray | Drug Review & Study Guide Questions  **Due 1/25 @ 11:59 p.m** | Quiz 3  **Due 1/25 @ 11:59 p.m.** |
| 4 | 1/28-  2/1 | Biopharmaceutics & Pharmacokinetics | Ch 3 | Metformin | Drug Review & Study Guide Questions  **Due 2/1 @ 11:59 p.m** | Quiz 4  **Due 2/1 @ 11:59 p.m.** |
| 5 | 2/4-  2/8 | Pharmacodynamics | Ch 4 | DepoMedrol | Drug Review & Study Guide Questions  **Due 2/8 @ 11:59 p.m** | Quiz 5  **Due 2/8 @ 11:59 p.m.** |
| 6 | 2/11-  2/15 | Drug Classifications | Ch 5 | Isovue &  Omnipaque | Drug Review & Study Guide Questions  **Due 2/15 @ 11:59 p.m** | Quiz 6  **Due 2/15 @ 11:59 p.m.** |
| 7 | 2/18-  2/22 | Contrast Agents part 1 | Ch 6 | Magnevist | Drug Review & Study Guide Questions  **Due 2/22 @ 11:59 p.m** | Quiz 7  **Due 2/22 @ 11:59 p.m.** |
| 8 | 2/25-  3/1 | Contrast Agents part 2 | Ch 7 | Optiray & Visipaque | Drug Review & Study Guide Questions  **Due 3/1 @ 11:59 p.m** | Quiz 8  **Due 3/1 @ 11:59 p.m.** |
| 9 | 3/4-  3/8 | Sedation | Ch 10 | Ativan/Versed | Drug Review & Study Guide Questions  **Due 3/8 @ 11:59 p.m** | Quiz 9  **Due 3/8 @ 11:59 p.m.** |
| 10 | 3/11-  3/15 | Emergency Medications | Ch 11 | Epinephrine & Lidocaine | Drug Review & Study Guide Questions  **Due 3/15 @ 11:59 p.m** | Quiz 10  **Due 3/15 @ 11:59 p.m.** |
| 11 | 3/16-  3/20 | Finals Week | Ch 1-11 | None | None | Final |

**COURSE OUTLINE**

**REQUIREMENTS:** **NO LATE WORK WILL BE ACCEPTED.**

1. **RECORDED LECTURES: (0 points)** Students will be required to view recorded lectures every week.

1. **STUDY QUESTIONS: (6 points each)** Students are required to create 2 review questions each week that pertain to the reading material and the lecture material. These questions will be used to create a final exam study guide. There is specific criteria the question must meet for credit.
2. **NOTE CARDS: (5-20 points each week)** Students will be required to create note cards per drug research assignment. The drug information sheets and drug package insert documents will be provided. These note cards will be created in a website called [Quizlet](http://quizlet.com/). Students will be asked to create a quizlet account and create electronic notecards.  **Use your x# for your username and radiology for your password so that I can access your cards each week and grade what you have done.** If you already have an account established, just email me your username and password.
3. **QUIZZES: (10-20 points each)** There will be quizzes for most modules.  These quizzes will be over material covered in the module. Quizzes are timed and may only be taken once. Quizzes are closed note/book. All students are expected to take quizzes with integrity, jeopardizing neither their own work, nor that of others. These quizzes can be completed at any time during the week the module opens, **but must be completed and submitted by 11:59 p.m. on Fridays**.
4. **FINAL EXAM (200 points) 100 questions:** The final exam will be comprehensive and will include material from the text, from the recorded lectures, 10 student submitted questions, and from all of the researched drugs. It will be closed note, closed book and can be taken on your own anytime between 3/15 and 3/20.

**Grading:**

**A = 91.5%-100%**

**B = 82.5%-91.4%**

**C = 74.5%-82.4%**

**F = < 74.5% Less than 74.5% will result in the student being withdrawn from the program and receiving a letter grade of F on their transcripts. The Diagnostic Imaging Program does not utilize the grade D.**

**Syllabus Change Policy**

Syllabus is subject to change as the instructor evaluates the progress of students and their understanding of concepts.

**Course Failure Policy**

If a student fails this course, he or she must withdraw from the program.

**Discrimination Policy**

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information visit<http://po.linnbenton.edu/BPsandARs/>.

**Disability Services Policy**

You should meet with your instructor during the first week of class if:

* You have a documented disability and need accommodations,
* Your instructor needs to know medical information about you, or
* You need special arrangements in the event of an emergency.

If you have not accessed services and think you may need them, please contact Disability Services, 541-917-4789.

**Statement of Inclusion**

The LBCC community is enriched by diversity. Everyone has the right to think, learn, and work together in an environment of respect, tolerance, and goodwill. I actively support this right regardless of race, creed, color, personal opinion, gender, sexual orientation, or any of the countless other ways in which we are diverse. (Related to Board Policy #1016)