BASIC PHARMACOLOGY  
RNSG 1301/23001  
Brookhaven College  
Dallas County Community College District  
Spring 2013

Credit Hours: 3

Contact Hours:  48
Class hours 2-5 pm Monday

Instructor:  Lois Ames MSN, ANP, RN

Contact Information:
Office X 1101  
Office: 972-860-4757  
Secretary: Nancy Summers  
Sec. Office: 972-860-4754  
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Office Hours:  Monday 1:30-2:00  and after class.
Wednesday 12-3 and Friday by appt. I have lecture all day Friday 8-3.
I am in clinical and away from campus a lot. It is best if you call me to
arrange a meeting time.
Clinical Hours: 0 for this course

Course Description:

This course introduces the science of pharmacology with emphasis on actions, interactions, adverse effects, and nursing implication of each drug classification. Topics include the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework. 3 SCH, 3 Lecture, 0 lab

Prerequisites:  SCIT 1408 or BIOL 2402
Co-requisites:  None

Student Learning Outcomes:
Identify the roles and responsibilities of the nurse in administering pharmacological agents; and utilize knowledge of pharmacology to demonstrate safe administration of medications validated through written exams by the end of the semester.

**Course Objectives:**

1) Apply the principles of pharmacology, including pharmacokinetics and pharmacodynamics in the treatment of common health problems across the lifespan.

2) Identify unexpected and potential adverse reactions to pharmacological agents such as allergic reactions, drug interactions, idiosyncratic reactions, altered metabolism and/or excretion and age/ethnic differences.

3) Identify appropriate methods of monitoring the effectiveness of specific pharmacological therapy.

4) Explain state and federal laws that regulate the dispensing of various classes of drugs.

5) Discuss the use of herbal therapy and/or nutritional supplements and how these practices can be integrated into traditional Western health care.

6) Discuss normal changes related to aging that impact the body’s utilization and elimination of medications.

7) Identify adverse drug reactions that are commonly seen in the older adult.

8) Apply nursing process to the principles and methods of drug administration.

9) Identify the steps of nursing process as they are applied in patient teaching regarding medications.

10) Discuss a nursing approach to fostering compliance with medication regimens.

11) Discuss important concepts related to safe and effective medication management.

12) Explain how to assess a client who is receiving medication therapy.

13) Identify prescription drug problems in older adults, such as polypharmacy.

14) **Apply critical thinking skills** to clinical scenarios that involve drug therapy.

15) Identify appropriate nursing actions related to the administration of medication to children and adults.
16) Describe different classes of medications that are utilized to treat different physiological problems such as hypertension, infections, diabetes, and demonstrate knowledge of rationales for treatment.

**Required Textbook:**


**Teaching/Learning Activities:**

Lecture  
Classroom discussion  
Audio-visual aids  
Critical thinking exercises  
Case studies  
Written assignments  
Internet searches and Evolve/Elsevier website  
Printed handouts

**Grading:**

The theory grade is a letter grade obtained by adding all unit exams, the project grade and comprehensive final exam. All of the evaluation tools are equally weighted. The final course grade **only** will be rounded up if .5 or greater; (e.g. 86.5 would = 87, 77.9 = 78). No rounding will occur on unit exams or comprehensive final, only the final course grade. **Every exam must be taken and no exam grade can be dropped.** The actual number of final course grade rounded is applied to the scale below to determine a letter grade:

- A = 100 – 90  
- B = 81 – 89  
- C = 76 – 80  
- D = 65 – 75  
- F = 64 and below

**Exams and Assignments:**

There are 4 unit exams, a project, and a comprehensive final exam. The exams are multiple choice and short answer. They are equally
weighted. There may be quizzes. The points from them will be added to the total points at the end of the semester and divided by the number of total (6) A class schedule is provided at the start of the semester.

**Institutional Policies:**

**Disabilities Act Compliance:** If you are a student with a disability and/or special needs who requires ADA accommodations, please contact the college Disability Services Office in Room S-124. Phone 972-860-4847.

**Religious Holidays:** Absences for observance of a religious holy day are excused. A student whose absence is excused to observe a religious holy day is allowed to take a make-up examination or complete an assignment within a reasonable time after the absence.

**Academic Dishonesty:** Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the Dallas County Community Colleges Code of Student Conduct published in the Dallas County Community Colleges Catalog [http://www.dcccd.edu/catO506/ss/code.cfm](http://www.dcccd.edu/catO506/ss/code.cfm)

**Withdrawal Policy**

If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar’s office by the college drop date, April 11th for Spring 2013 semester. Failure to do so will result in your receiving a performance grade, usually an “F”. If you drop a class or withdraw from the college before the official drop/withdrawal deadline, you will receive a “W” (Withdraw) in each class dropped.

**Six Course Drop Rule “Stop before you drop”**

A first-time student who enrolls in a Texas public institution of higher education during the fall semester of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than six college level credit courses unless the student demonstrates to an appropriate college official that one of the following events occurred to the student during the semester or summer session:
1. A severe illness or other debilitating condition that affects the student’s ability to satisfactorily complete the course.

2. The student’s responsibility for the care of a sick, injured, or needy person if the provision of that care affects the student’s ability to satisfactorily complete the course.

3. The death of a person who is considered to be a member of the student’s family or who is otherwise considered to have a sufficiently close relationship to the student that the person’s death is considered to be a showing of good cause.

4. The active duty service as a member of the Texas National Guard or the armed forces of the United States of either the student or a person who is considered to be a member of the student’s family or who is otherwise considered to have a sufficiently close relationship to the student that the person’s active military service is considered to be a showing of good cause.

5. The change of the student’s work schedule that is beyond the control of the student, and that affects the student’s ability to satisfactorily complete the course.

6. Other good cause as determined by the college official. (Effective January 8, 2008.)

Repeating This Course:
Effective for Fall Semester 2005, The Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. All third and subsequent attempts of the majority of credit and Continuing Education/Workforce Training courses will result in additional tuition to be charged. Developmental Studies and some other courses will not be charged a higher tuition rate. Third attempts include courses taken at any Dallas County Community College since the Fall 2002 Semester.

Financial Aid Statement:
Effective Fall 2006, the DCCCD will introduce a new failing grade—a grade of “N” as a companion grade to the current failing grade of “F”. Federal rules require students who fail all classes within a semester/term because of lack of “participation” to repay their financial aid. The District has established two kinds of failing grades, one based upon poor academic performance (the traditional grade of “F”). and one based upon lack of “participation” (a new grade of “N”). However, it is important to
know that both grades will be shown on a student’s transcript as a grade of “F”. The assignment of a grade of “N” or “F” is for administrative, record-keeping purposes to help determine when a student will/will not be required to repay federal financial aid; and if a faculty member determines that a student has failed the course, the faculty member assigns either a grade of “N” or “F” based upon the student’s performance AFTER the official drop date. If the student “participates” in class AFTER the official drop date, the faculty member assigns a grade of “F”. “Participation” for this purpose only is defined as—Submits or completes an assignment after the official drop date, or – Attends at least one class after the official drop date. If a student has not demonstrated one of the above and the instructor determines that the student has failed the course, the student will be assigned a grade of “N” by the faculty member. In such a case, the student’s transcript will record the “N” grade as an “F”.

Disclaimer Reserving Right to Change Syllabus:
*The instructor reserves the right to amend this syllabus as necessary.

Classroom Policies:
Testing may occur in the classroom or testing center. It will be announced in class. **Students must provide their own scantron’s which may be purchased in S building (machine and bookstore) effective Fall 2010**

**Testing Center:** Cell phones and pagers are no longer allowed in the Testing Center.
When testing in class, all cell phones and electronic devices shall be brought to the instructor while testing is taking place.
Cell phones will be in a vibrate or off mode during class. NO TEXTING in class.
Please attend to personal issues such as bathroom needs **Prior** to starting the exam.
Course Outline

I. Role of the nurse in pharmacology
   A. Understanding drug action
      1. Pharmacodynamic
      2. Pharmacotherapeutic
      3. Pharmacokinetic
   B. Nursing process and client teaching
   C. Principles of drug administration
   D. Drug therapy for pediatric patients
   E. Drug therapy for geriatric patients
   F. Drug safety
      1. Drug interaction
      2. Over the counter drugs
      3. Drug abuse
      4. Drug administration principles
   G. Herbal therapy with nursing implications

II. Drugs used to relieve pain and inflammation
   A. Analgesics and antipyretics
      1. Opioids and other narcotics
      2. Opioid antagonist
      3. Non-Opioid analgesics
      4. Analgesic antipyretics
   B. Anti-inflammatory drugs
      1. Nonsteroidal anti-inflammatory drugs
      2. Corticosteroids
      3. Drugs to treat neuropathic pain

III. Drugs affecting the central nervous system
   A. Sedatives and hypnotics
      1. Barbiturates
      2. Benzodiazepines
      3. Alcohol
   B. Drugs used to treat psychiatric disorders
      1. Antianxiety drugs
      2. Antipsychotic drugs
      3. Antidepressant drugs
      4. Antimanic drugs
C. Anorectic drugs and central nervous system stimulants
   1. Anorexiants
   2. Analeptics
D. Anti-Parkinson drugs
   1. Dopaminergic agents
   2. Anticholinergic agents
   3. Other therapies
E. Anticonvulsants (antiseizure medications)

IV. Drugs used to treat cardiovascular disorders
   A. Cardiac stimulants and depressants
      1. Cardiac glycosides
      2. Antidysrhythmic agents
      3. Cardiac stimulants
   B. Drugs which dilate blood vessels
      1. Coronary vasodilators
      2. Peripheral vasodilators/vasoconstrictors
   C. Drugs affecting blood clotting
      1. Anticoagulants
      2. Thrombolytic agents
      3. Antiplatelet agents
   D. Diuretics (5 classes)
   E. Antihypertensives (various classes)
   F. Drugs used in the treatment of hyperlipidemia

V. Agents that interfere with microbial growth (Antibiotics)
   A. Antimicrobial drugs
      1. Antibacterial
      2. Drugs used to treat tuberculosis
      3. Antifungal drugs
      4. Antiviral drugs
   B. Antiparasitic drug therapy
   C. Antiseptics and disinfectants
   D. Antineoplastic Agents=Drugs used in the treatment of cancer
      1. Alkylating agents
      2. Antimetabolites
      3. Mitotic inhibitors
      4. Hormones
5. Radioactive drugs
6. Miscellaneous antineoplastic agents

VI. Drugs used in the treatment of skin disorders
   A. Antineoplastic drugs
   B. Drugs used to treat burns
   C. Corticosteroids

VII. Agents that affect immunity
   A. Interferons and interleukins
   B. Immunosuppressant drugs

VIII. Drugs used to treat gastrointestinal disorders
   A. Antacids
   B. Antispasmodics
   C. Laxatives
   D. Anti-diarrhea
   E. Emetics and antiemetics
   F. Histamine h2 receptor antagonists
   G. Proton pump inhibitors

IX. Drugs affecting nutrition
   A. Drugs used to treat nutritional anemias
      1. Iron deficiency anemia
      2. Megaloblastic anemias
   B. Vitamins, minerals and other nutritional agents (Fat and water soluble vitamins)

X. Drugs used to treat respiratory disorders
   A. Antihistamines and nasal decongestants
   B. Expectorant and antitussive drugs
   C. Bronchodilators and mucolytics
   D. Respiratory stimulants
XI. Drugs used in the eye and ears
   A. Drugs used in the treatment of glaucoma
   B. Mydriatics
   C. Anti-infectives
   D. Miotics

XII. Drugs used to correct hormonal imbalance
   A. Drugs affecting thyroid, parathyroid and pituitary function
   B. Drugs used to treat hyperglycemia and hypoglycemia
      1. Insulin therapy
      2. Oral hypoglycemic agents

XIII. Drugs affecting the reproductive system
   A. Estrogen and progesterone combinations
   B. Male hormones testosterone supplements and erectile dysfunction

We will cover most of these in lecture but not necessarily in the same order as listed. This is a fast paced class. Reading prior to class is helpful. Powerpoints are provided on some of the content but attendance in class is recommended. Grades are posted on e-campus following the exams.
Brookhaven College SCANS Statement

- **What Are SCANS Skills?**
  These are the skills that employers need the most from their workers. SCANS skills are the predictors of success in the workplace.

- **Who Defined These Skills?**
  In 1989, the U.S. Departments of Labor and Education jointly surveyed U.S. employers to find out the most important skills and competencies needed by workers. The results of that survey identified SCANS (Secretary’s Commission on Achieving Necessary Skills).

- **Brookhaven College Students and SCANS**
  Brookhaven College is committed to the preparation of our students for success in the workplace.

At Brookhaven College, courses provide learning outcomes which result in the mastery of SCANS skills. Although each course will not include every SCANS skill, each course syllabus will identify the specific SCANS skills and competencies taught in that course. Throughout a formal program of study (certificate, degree, or transfer program), a student will have the opportunity to master all SCANS and competencies.

### SCANS WORKPLACE COMPETENCIES

<table>
<thead>
<tr>
<th>1A Managing Resources</th>
<th>1b Interpersonal Skills</th>
<th>1c Information Skills</th>
<th>1d Systems Knowledge</th>
<th>1e Using Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Manage time</td>
<td>(1) Work on teams</td>
<td>(1) Acquire/evaluate data</td>
<td>(1) Work in social systems</td>
<td>(1) Select equipment/tools</td>
</tr>
<tr>
<td>(2) Manage money</td>
<td>(2) Teach others</td>
<td>(2) Organize/maintain data</td>
<td>(2) Work in technological systems</td>
<td>(2) Apply technology to tasks</td>
</tr>
<tr>
<td>(3) Manage materials</td>
<td>(3) Serve customers</td>
<td>(3) Interpret/com-communicate data</td>
<td>(3) Monitor/correct systems</td>
<td>(3) Maintain/trouble-shoot technologies</td>
</tr>
<tr>
<td>(4) Manage space</td>
<td>(4) Lead others</td>
<td>(4) Process data with computer</td>
<td>(4) Design/improve systems</td>
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<tr>
<td>(5) Manage human resources</td>
<td>(5) Negotiate conflict</td>
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<tr>
<td>(6) Work with diversity</td>
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### SCANS FOUNDATION SKILLS

<table>
<thead>
<tr>
<th>2a Basic Skills</th>
<th>2b Thinking Skills</th>
<th>2c Personal Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Reading</td>
<td>(1) Creative thinking</td>
<td>(1) Responsibility</td>
</tr>
<tr>
<td>(2) Writing</td>
<td>(2) Decision making</td>
<td>(2) Self-esteem</td>
</tr>
<tr>
<td>(3) Arithmetic/Math</td>
<td>(3) Problem solving</td>
<td>(3) Sociability</td>
</tr>
<tr>
<td>(4) Speaking</td>
<td>(4) Seeing things in the mind’s eye</td>
<td>(4) Self-management</td>
</tr>
<tr>
<td>(5) Listening</td>
<td>(5) Reasoning</td>
<td>(5) Integrity</td>
</tr>
<tr>
<td>(6) Knowing how to learn</td>
<td></td>
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</tr>
<tr>
<td>SCANS COMPETENCY</td>
<td>LEARNING OUTCOMES</td>
<td>EVALUATIVE METHOD – Performance will be measured by:</td>
</tr>
<tr>
<td>------------------</td>
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<td>---------------------------------------------------</td>
</tr>
<tr>
<td>1a (1-5), 2a (1) (5), 2b (6)</td>
<td>Apply the principles of pharmacology, including pharmacokinetics and pharmacodynamics in the treatment of common health problems across the lifespan.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (6), 1c (1-3), 2a (1) (5), 2b (1-6)</td>
<td>Identify unexpected and potential adverse reactions to pharmacological agents such as allergic reactions, drug interactions, idiosyncratic reactions, altered metabolism and/or excretion and age/ethnic differences.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1a (1-6), 1b (2) (3) (6), 1c (1-4), 2a (1-2), 2b (2)</td>
<td>Identify appropriate methods of monitoring the effectiveness of specific pharmacological therapy.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1d (1), 2c (1), (5)</td>
<td>Explain state and federal laws that regulate the dispensing of various classes of drugs.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (2) (6), 2a (1) (2), 2b(1)</td>
<td>Discuss the use of herbal therapy and/or nutritional supplements and how these practices can be integrated into traditional Western health care.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (6), 1c (1-3), 2a (2)</td>
<td>Discuss normal changes related to aging that impact the body’s utilization and elimination of medications.</td>
<td>Written exam</td>
</tr>
<tr>
<td>SCANS COMPETENCY</td>
<td>LEARNING OUTCOMES</td>
<td>EVALUATIVE METHOD – Performance will be measured by:</td>
</tr>
<tr>
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<td>------------------------------------------------------</td>
</tr>
<tr>
<td>1c (1-3), 2a (1) 1b (6)</td>
<td>Identify adverse drug reactions that are commonly seen in the older adult.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1a (1-6) 1b (1-3), 2a (1), 2c (1)</td>
<td>Apply nursing process to the principles and methods of drug administration.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1a (1-6), 1b (2-3), 2a(4), 2c (1)</td>
<td>Identify the steps of nursing process as they are applied in patient teaching regarding medications.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (1-3) (6), 2a (4-5), 2b (1)</td>
<td>Discuss a nursing approach to fostering compliance with medication regimens</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (1) (6), 1c (1-3), 2b (2-5) (5)</td>
<td>Discuss important concepts related to safe and effective medication management.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (3) (6), 2b (3-4)</td>
<td>Explain how to assess a client who is receiving medication therapy.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (2-4) (6), 2b (1-5), 2c (1)</td>
<td>Identify prescription drug problems in older adults, such as polypharmacy.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (1), 2b (1-6)</td>
<td>Apply critical thinking skills to clinical scenarios that involve medications/therapy.</td>
<td>Written exam</td>
</tr>
<tr>
<td>1b (3) (6), 2a (4-5), 2b (1-5)</td>
<td>Identify appropriate nursing actions related to the administration of medications to children.</td>
<td>Written exam</td>
</tr>
</tbody>
</table>