



Course Syllabus

Course #: NUR 1050 Course Name: Nursing Pharmacology

Division: Arts and Sciences

Class Days:

Class Time:

Location: Classroom:

Laboratory:

Credit Hours: 2

Contact Hours: 2

Lab Hours:

Lecture Hours: 2

Instructor:

Office Location:

Phone:

Email Address:

Office Hours:

Division Office/Location:

Division Fax:

Full-time Contact Person:

Phone(s):

Course Description:

In this course the student will become familiar with pharmacological classifications of medications along with their effects and side effects. Emphasis is placed on the proper use of medication in self-care and dependent-care relative to health-related requisites, nursing role in administration of drugs, and proper patient education. Students will be required to the perform math skills required to calculate proper medication dosages.

Course Objectives:

The Objectives of NUR 1050 are to:

1. Introduce the student to the core concepts of pharmacology with emphasis on classifications of drugs, actions and effects of drugs and the nursing considerations associated with each classification.
2. Enable the student to identify the relationship of health deviations with the classification of drugs.
3. Introduce the student to the principles of drug management.
4. Relate the concepts of pharmacokinetics as an integral part of evidence based nursing.
5. Present the classifications and effects of drugs to maximize the student's ability to relate these data to the nursing process.

Prerequisite(s):

- BIO 1210, Anatomy and Physiology I or Coordinator permission
- Placement into ENG 1050, College Composition I
- Placement into MTH 2310, College Algebra

Corequisite(s):

- NUR 1040, Medical-Surgical Nursing I; or NUR 1030, Nursing Transitions

Entry Level Skills and Knowledge:

The student must have the physical capability to:

- Provide nursing care for 6 to 8 hours.
- Perform one person CPR.
- Lift and move patients and objects weighing 50 pounds or more.

- Demonstrate fine motor manual dexterity skills.
- Work at varying heights and levels.
- Use both hands simultaneously.
- Write or print legibly.

The student must have the sensory ability to:

- Hear and acknowledge verbal instructions, recognize changes in equipment sounds, perform auscultation with or without assistive devices.
- See and read medication labels, patient records, and equipment instructions.
- Identify various odors and identify them as normal or as an undesired odor.
- Discriminate between sharp, dull, hot and cold.
- Speak clearly to provide information, to explain procedures, to conduct interviews and to ensure patient understanding.

The student must have the mental capability to:

- Read with comprehension at the college level.
- Apply formulas and critical thinking to solve mathematical problems and data analysis.
- Interpret graphs, numerical tables and charts.
- Write/print clearly and concisely.
- Use appropriate grammar and vocabulary.
- Correctly spell common words and medical terminology.

The student must have the emotional capability to:

- Function quickly and accurately under stressful conditions.
- Adapt to a changing environment.
- Acknowledge and accept cultural differences.
- Provide nursing care to patients regardless of age, gender, race, national origin, religious beliefs, physical condition and/or disease process.

Required Texts, Supplies and Equipment:

Adams, P., Josephson, D. & Holland, Leland, Jr. (2005) *Pharmacology for nurses: A pathophysiologic approach*. (1st ed.). Saddle River: Pearson-Prentice Hall.

Adams, P., Holland, L., Jr. (2005) *Workbook for pharmacology for nurses: A pathophysiologic approach*. (1st ed.). Saddle River: Pearson-Prentice Hall.

Giangrasso, A., Olsen, J., Shrimpton, D. (2004). *Medical dosage calculations* (8th ed.). Upper Saddle River: Pearson-Prentice Hall.

Grading:

Grading Scale for Nursing Courses:

A = 100-94 percent

B = 93-87 percent

C = 86-78 percent

F = 0-77 percent

To successfully complete this course the student must:

- Achieve an overall “C” average on all tests and quizzes and written assignments.
- Achieve a grade of “C” or better on the final exam.

- Achieve a satisfactory competency evaluation of all required nursing skills in the campus laboratory.
- Achieve a satisfactory competency evaluation of all required nursing skills in the clinical setting.

Additional Information:

- There will be no rounding of grades (e.g., 77.999 is a grade of “F”).
- Grading methods will include evaluation of the understanding of theories and concepts through written and oral tests.
- When a math test is administered in a nursing course, the test will focus on the types of math problems and calculations that reflect the complexity of the nursing course. A grade of 87% must be achieved in order to be eligible to proceed to the next clinical nursing course. The test may be retaken once. Students may visit the math lab and/or use the nursing math remediation website at www.terra.edu/academics/nursing/home.asp. If 87% is achieved, the student may progress to the next clinical course.
- Evaluation of laboratory performance and clinical laboratory performance will be graded as satisfactory or unsatisfactory based on performance criteria. An unsatisfactory grade for the clinical or campus laboratory performance will result in a failing grade for the course.

Learning Outcomes:

Upon completion of NUR 1050, Nursing Pharmacology, the student will be able to:

General Education

1. Read at a level necessary to understand the content of general nursing textbooks, related journal articles and audio-video based information.
2. Calculate math problems related to drug dosage and administration and infusion rates for intravenous therapy.
3. Identify cultural differences and similarities.
4. Discuss the impact of cultural and ethnic background on the sociological and psychological responses to daily lives.
5. Use electronic equipment as a tool for communication and data recording.

Nursing Education

1. Identify the classification, actions and effects of commonly used drugs.
2. Identify the appropriate method of administering the ordered drug.
3. Seek information regarding the classification, action and effects of unfamiliar drugs.
4. Administer Medications safely and accurately.
5. Calculate doses for oral; inject able and intravenous administration safely and accurately.
6. Recognize a drug order that is not within the normal range of use and dosage and appropriate follow-up.
7. Provide supportive-educative nursing care related to pharmacologic interventions for patients.

Assessment of Student Learning:

Assessment of student learning will be through class discussion, case studies, projects and written examinations. Students also are required to pass a math proficiency test with a grade of 87% or higher.

Plan of Work:

Session

Date

Week 1

Spring 2007

Activities

Lecture

Topics include:

- Introduction to Pharmacology.
 - History of pharmacology.
 - Pharmacology and therapeutics.
 - Classifications of therapeutic agents.
 - Role of the FDA.
- Drug classes and schedules.
 - Chemical, generic and trade names.
 - Differences between generic and brand name equivalents.
 - Controlled substances and drug schedules.
- Emergency preparedness.
 - Nature of Bioterrorism.
 - Role of the nurse in emergency preparedness.
 - Agents used in bioterrorist attacks.
- Nursing considerations.
- Review of mathematics for medical dosage calculations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach,
Chapters 1, 2, and 3.

- Note to students: If you are experiencing difficulty with drug dosage calculations please refer to your textbook *Medical Dosage Calculations* for review.

Week 2

Lecture

Topics include:

- Principles of drug administration.
 - Nursing management of drug administration.
 - Routes of drug administration.
- Pharmacokinetics.
 - Absorption, distribution, metabolism and excretion of medications.
- Pharmacodynamics.
 - Dose–response relationship.
 - Potency and efficacy.
 - Therapeutic index.
 - Cellular receptors and drug action.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach,
Chapters 4, 5, and 6.

Week 3

Lecture

Topics include:

- Pharmacotherapy throughout the life span.
 - Drug administration in infants and children.

- Drug administration in adolescents.
- Drug administration in adults.
- Drug administration in older adults.
- Drug administration during lactation and pregnancy.
- The nursing process in pharmacology.
 - Assessment related to drug administration.
 - Nursing diagnoses for patients receiving medications.
 - Goals and outcomes for drug administration.
 - Interventions and evaluation of the effects of drug administration.
- Legal and ethical Issues related to drug administration.
 - Medical ethics and nursing practice related to drug administration.
 - Law associated with drug administration.
 - Documentation.
 - Reporting and preventing medication errors.
- Biosocial aspects of pharmacotherapy.
 - Psychosocial, cultural and ethnic influences on pharmacology.
 - Genetic and gender influences on pharmacotherapy.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 7, 8, 9, and 10.

Week 4

Examination

Week 5

Lecture

Topics include:

- Drugs affecting the autonomic nervous system.
 - Parasympathomimetics.
 - Anticholinergics.
 - Sympathomimetics.
 - Adrenergic antagonists.
- Drugs for anxiety and insomnia.
 - Central nervous system depressants.
 - Barbiturates.
- Drugs for seizures.
 - Drugs that potentiate GABA agents.
 - Drugs that suppress sodium influx.
 - Drugs that suppress calcium influx.
- Drugs for emotional and mood disorders.
 - Depression.
 - Bipolar disorder.
 - Attention deficit-hyperactive disorder.

Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 13, 14, 15, and 16.

Week 6

Lecture

Topics include:

- Drugs for psychoses.
 - Phenothiazines.
 - Nonphenothiazines.
 - Atypical antipsychotic agents.
- Drugs for degenerative diseases of the nervous system.
 - Parkinson's disease.
 - Alzheimer's disease.
- Drugs for the control of pain.
 - Opioid analgesics.
 - Nonopioid analgesics.
 - Nonsteroidal anti-inflammatory agents.
 - Drugs for the treatment of tension headaches and migraines.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 17, 18, 19, and 20.

Week 7

Lecture

Topics include:

- Drugs for hypertension.
 - Diuretics.
 - Calcium channel blockers.
 - Drugs affecting the rennin-angiotensin system.
 - Adrenergic agents.
 - Direct vasodilators.
- Drugs for heart failure.
 - Cardiac glycosides.
 - ACE inhibitors.
 - Vasodilators.
 - Diuretics.
 - Phosphodiesterase inhibitors.
 - Beta-adrenergic blockers.
- Drugs for dysrhythmias.
 - Sodium channel blockers (class I).
 - Beta-adrenergic blockers (class II).
 - Potassium channel blockers (class III).
 - Calcium channel blockers (class IV).
- Drugs for coagulation disorders.
 - Anticoagulants.
 - Antiplatelet agents.
 - Thrombolytics.

- Antifibrinolytics.
- Drugs for angina, myocardial infarction, and cerebrovascular accident.
 - Organic nitrates.
 - Beta-adrenergic blockers.
 - Calcium channel blockers.
 - Glycoprotein IIa/IIIb inhibitors.
 - Thrombolytics.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 21, 22, 23, 24, and 25.

Week 8

Lecture

Topics include:

- Drugs for shock.
 - Fluid replacement agents.
 - Vasoconstrictors.
 - Cardiotonic agents.
- Drugs for lipid disorders.
 - HMG-CoA Reductase Inhibitors/Statins.
 - Bile Acid Resins.
 - Nicotinic acid.
 - Fibric acid agents.
- Drugs for hemopoietic disorders.
 - Hemopoietic growth factors.
 - Colony-stimulating factors.
 - Platelets enhancers.
 - Antianemic agents.
- Drugs for pulmonary disorders.
 - Use of beta adrenergic blockers, methyxanthines, anticholinergics, glucocorticoids, mast cell inhibitors and leukotrienes in the treatment of asthma.
 - Treatments for chronic obstructive pulmonary disease.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 26, 27, 28, and 29.

Week 9

Midterm Examination

Week 10

Lecture

Topics include:

- Drugs for the immune system.
 - Vaccines and immunostimulants.
 - Biologic response modifiers.
 - Immunosuppressant.
- Modulation drugs for inflammation, fever and allergies.

- Nonsteroidal anti-inflammatory.
- Systemic glucocorticoids.
- Antipyretics.
- H2 receptor antagonists and antihistamines.
- Intranasal glucocorticoids.
- Sympathomimetics.
- Treatments for anaphylaxis.
- Drugs for bacterial infections.
 - Antibacterial agents.
 - Treatment for tuberculosis.
- Drugs for fungal, protozoan, and helminth infections.
 - Drugs for systemic fungal infections.
 - Drugs for superficial fungal infection.
 - Protozoan and helminthic infections.
- Drugs for viral infections.
 - Treatment for HIV-AIDS.
 - Treatment of herpes viruses.
 - Treatment for influenza.
 - Treatments for hepatitis.
- Drugs for neoplasia.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 30, 31, 32, 33, 34, and 35.

Week 11

Lecture

Topics include:

- The gastrointestinal system.
- Drugs for peptic ulcer disease.
 - H2 receptor antagonists.
 - Proton pump inhibitors
 - Antacids.
 - Antibiotics and miscellaneous.
- Drugs for bowel disorders, nausea and vomiting.
 - Laxatives.
 - Antidiarrheals.
 - Antiemetics.
 - Anorexiant.
- Drugs for nutritional disorders.
 - Vitamins, minerals, and nutritional supplements.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 36, 37, and 38.

Week 12

Lecture

Topics include:

- Drugs for pituitary, thyroid, and adrenal disorders.
- Disorders of the hypothalamus and pituitary glands.
 - Growth hormone.
 - Antidiuretic hormone.
- Thyroid and antithyroid agents.
- Adrenal gland disorders.
 - Glucocorticoids.
 - Drugs for pancreatic disorders.
- Diabetes Mellitus.
 - Insulin.
 - Oral hypoglycemics.
- Exocrine disorders of the pancreas.
 - Pancreatic enzymes.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 39 and 40.

Week 13

Lecture

Topics include:

- Drugs for disorders and conditions of the female reproductive system.
 - Contraception, emergency contraception, and abortion.
 - Menopause.
 - Uterine abnormalities.
 - Labor and breastfeeding.
 - Female infertility.
- Drugs for disorders and conditions of the male reproductive system.
 - Male hypogonadism.
 - Male infertility.
 - Erectile dysfunction.
 - Benign prostatic hyperplasia.
 - Drugs for renal disorders and diuretic therapy.
 - Renal failure.
- Drugs for fluid, electrolyte, and acid-base disorders.
 - Fluid balance.
 - Electrolyte replacement therapy.
 - Acid-base balance.
- Nursing considerations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 41, 42, 43, and 44.

Week 14

Lecture

Topics include:

- Drugs for muscle spasms and spasticity.
 - Centrally acting skeletal muscle relaxants.
 - Direct-acting antispasmodics.
- Drugs for bone and joint disorders.
 - Calcium related disorders.
 - Joint disorders.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 45 and 46.

Week 15

Lecture:

Topics include:

- Drugs for skin disorders.
 - Skin infections.
 - Skin parasites.
 - Sunburn and minor burns.
 - Acne and rosacea.
 - Dermatitis.
 - Psoriasis.
- Drugs for eye and ear disorders.
 - Glaucoma.
 - Otic preparations.

Reading assignment

Pharmacology for nurses: A pathophysiologic approach, Chapters 47 and 48.

Week 16

Final Examination

Course Requirements

To successfully complete this course, the student must:

1. Achieve a “C” average or better on all tests and quizzes.
2. Complete case study assignments.

Policies

Progression

Once enrolled in the Associate Degree Nursing program, the student must achieve a grade of “C” or better in each nursing course (NUR) listed in the program curriculum. All nursing courses required for the program must be completed within four years from the date of enrollment in the first nursing course.

Failing Grades

A grade less than “C” for any nursing course (NUR) counts as a failing grade. A student who earns a grade of less than a “C” in a nursing course must repeat the course and earn a grade of “C” or better before proceeding to the next nursing course(s). A student who earns a failing letter grade in two required nursing courses will be academically dismissed from the program. A student failing the same course twice will also be academically dismissed.

Course Withdrawal

Failure to officially withdraw from the course will result in an automatic “F.” Please follow official College procedure for withdrawing from this or any course. Students withdrawing from a nursing course (NUR) before completing the seventh week of the course, will obtain a withdraw pass which will not count as a course failure. Students who withdraw after the seventh week of the nursing course and who do not have a “C” average will be considered as withdraw failing. This will count as a course failure. Students are not permitted to withdraw more than twice from the same nursing course. Students who withdraw from a nursing course must meet with the Nursing Coordinator to request readmission into the course.

Support Services

The College offers a number of support services to assist students to be successful in this course and all courses. Among these services are the Writing & Math Center located in B105; the Office of Learning Support Services, which coordinates the campus disability services and tutoring programs; the computer labs; and the computers in the atriums.

Any student who needs an accommodation based on the documentation of a disability should contact the Office of Learning Support Services (OLSS) privately to discuss his/her specific issues. Please contact the OLSS at (419) 559-2208 or visit 100 Roy Klay Hall (Building A) to coordinate reasonable accommodations.

Tutoring services are available to students beginning the second week of every quarter. Students requesting tutoring services should obtain a tutor request form from the OLSS in 100 Roy Klay Hall (Building A) or online at the Terra website. Please note that instructor verification and acceptance of the Student Learner Agreement is necessary for all tutoring requests. All requests should be submitted to 100 Roy Klay Hall (Building A).