INSTRUCTIONAL PACKAGE

NUR 161
Basic Concepts of Pharmacology

Effective Term
Fall 2022/Spring 2023/Summer 2023

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: <u>Fall 2022/Spring 2023/Summer 2023</u>

COURSE PREFIX: NUR 161   COURSE TITLE: Basic Concepts of Pharmacology

CONTACT HOURS: 2.0   CREDIT HOURS: 2.0

RATIONALE FOR THE COURSE:
This course is an integral component of the ADN curriculum of study and is intended to expand the nursing student's knowledge and subsequent application of basic pharmacology concepts within contemporary nursing practice.

COURSE DESCRIPTION:
This course is an introductory study to pharmacotherapeutics, including drug classifications and clinical implications for clients.

PREREQUISITES/CO-REQUISITES:
Corequisites: NUR 101, BIO 210, ENG 101, MAT 110, MAT 120

REQUIRED MATERIALS:
Textbook:
Lilley, L. L., Collins S.R. & Snyder, J. S. (2020). *Pharmacology and the nursing process* (9th Ed.). Elsevier Inc.

Online Program
Student Resources on Elsevier/evolve web site – see directions for access in D2L
Sherpath for Pharmacology (Lilley revised version, 9th edition) – Evolve Course

Medication Cards (purchased in bookstore)

Kaplan Student Resources

Please visit the [BOOKSTORE](#) online site for most current textbook information.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

TECHNICAL REQUIREMENTS:
Access to Desire2Learn (D2L), HGTC's student portal for course materials.
myHGTC and college email access.

2022-2023

STUDENT IDENTIFICATION VERIFICATION:

Students enrolled in online courses will be required to participate in a minimum of one (1) proctored assignment and/or one (1) virtual event to support student identification verification. Please refer to your Instructor Information Sheet for information regarding this requirement.

CLASSROOM ETIQUETTE:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring for an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

Refer to Student Code, I, General Rights of Students, F. Classroom Behavior in the Academic Catalog & Student Handbook

NETIQUETTE: is the term commonly used to refer to conventions adopted by Internet users on the web, mailing lists, public forums, and in live chat focused on online communications etiquette. For more information regarding Netiquette expectations for distance learning courses, please visit Online Netiquette.

Part II: Student Learning Outcomes

COURSE LEARNING OUTCOMES and ASSESSMENTS

LEARNING OUTCOMES:

Upon completion of the course, the student should be able to

1. SAFETY

Apply knowledge of pharmacotherapeutics to promote a safe health care environment.

2. CLINICAL DECISION-MAKING

Explore the process for effective clinical decision-making related to pharmacotherapeutics by considering multiple factors such as physical assessment findings and laboratory values.

3. TEAMWORK AND COLLABORATION

Discuss the impact that collaborative professional relationships have on positive patient outcomes related to pharmacotherapeutics.

4. PROFESSIONAL BEHAVIORS

Explain the importance of ethical and regulatory standards related to the handling and administration of pharmacotherapeutics.

5. PATIENT-CENTERED CARE

- Recognize the effect that age, gender, race, and weight have on pharmacotherapeutics within the human body.
- Formulate effective drug education information appropriate for diverse patient populations that addresses age, level of education and development, language, and cultural considerations.

Module # 1
Materials Covered: Instructional Package & Instructor Course Information Sheet
                                   Course Calendar & Assignments
                                   Evolve Online Resources (Sherpath)
                                   Chapter 1: Nursing Process
*Assessment(s):   Case study, EAQ, Group Activity, Assignments, Exams

Learning Outcomes

1. Articulate the course learning outcomes and progression of the course.
2. Locate on-line assignments, evolve online resources, and navigate the HGTC D2L site.
4. Identify availability of faculty and how to reach course faculty.
5. List and articulate the 5 phases of the nursing process as it relates to drug therapy.
6. Articulate the "Nine Rights" and other "Rights" associated with safe medication administration.
7. Discuss the professional responsibility and standard of practice for the professional nurse as it relates to medication administration.
8. Explain the importance of teamwork and collaboration in the safe administration of medications.

Module #2
Materials Covered: Chapter 2: Pharmacologic Principles
                                   Chapter 3: Life Span Considerations
                                   Chapter 4: Cultural, Legal and Ethical Considerations
*Assessment(s):   Case study, EAQ, Group Activity, Assignments, Exams

Learning Outcomes:

1. Define common terms used in pharmacology.
   polypharmacy, agonist, additive effects, blood brain barrier, Cytochrome P-450, antagonist, classification, generic name, half-life, parent drug, peak effect, peak level, pharmacology, pharmacotherapeutics, receptor, synergistic effect, therapeutic index, teratogenic, trade name.
2. Explain the general concepts of pharmaceutics, and pharmacokinetics and their application to drug therapy and the nursing process.
3. Demonstrate an understanding of the various drug doses forms as they relate to drug therapy.
4. Describe the process of pharmacokinetics (absorption, distribution, metabolism, and excretion).
5. Explain the influences of the patient's age in the effects of drugs and drug responses to ensure safe medication administration.
6. Provide examples of how age affects the absorption, distribution, metabolism, and excretion of drugs across the life span.

2022-2023

7. Identify cultural factors (ethnicity and genetics) and gender that may influence an individual's response to medications, medication errors (physical and emotional).
8. Prepare a useful medication card that identifies classification, routes of administration, action, contraindications, important laboratory values, nursing responsibilities and patient education.

Module #3

Material Covered: Chapter 5: Medication Errors: Preventing & Responding
Chapter 6: Patient Education and Drug Therapy
Chapter 7: OTC Drugs & Herbal & Dietary Supplements
Assessment(s):   Case study, EAQ, Group Activity, Assignments, Exams

Learning Outcomes:

1. Define key terms: adverse drug event, allergic reaction, medication error, alternative medicine, herbs, dietary supplement, iatrogenic effect, over the counter, affective domain, cognitive domain, psychomotor domain
2. Discuss the issues contributing to the occurrence of medication errors, consequences of errors and methods of response and prevention.
3. List the responsibilities of the nurse in drug therapy and describe the essential elements of a medication order, including roles of the health care team.
4. Describe the role of the nurse and the patient in medication administration and prevention of medication errors.
5. Summarize the 3 domains of learning (cognitive, affective, and psychomotor) and their importance in patient education.
6. Explain teaching and learning principles appropriate to patient education and drug therapy across the life span.
7. Explain the differences between prescription drugs, OTC dugs, herbals and dietary supplements and potential dangers with their use.
8. Explain the role of herbal, OTC, and dietary supplements in the integrative approach to nursing care and health care.
9. Discuss the importance of professional behavior when working with medication administration, prescription, and nonprescription medications within the clinical setting.

Module #4

Material Covered: Chapter 10: Analgesic Drugs
                                     Chapter 44: Chapter 44: Anti-inflammatory & Antigout Drugs

Assessment(s):   Case study, EAQ, Presentation, Group Activity, Assignments, Exams

Learning Outcomes:

1. Define key terms: acute pain, chronic pain, addiction, break through pain, cancer pain, analgesic ceiling effect, opioid, tolerance, physical dependence, somatic pain, visceral pain, phantom pain, salicylism.
2. Identify examples of drugs classified as nonopioids, opioids, nonsteroidal anti-inflammatory medications.
3. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important drug–drug interactions of opioids, nonopioids, and nonsteroidal anti-inflammatory drugs (NSAID).
4. Articulate a nursing care plan based on the nursing process for patients in pain related to the use of anti-inflammatory, nonopioid and opioid drug therapy.
5. Explain the necessary patient education for patients receiving opioids, nonopioids, NSAIDs.
6. Explain the safety measures necessary in the administration of analgesics and anti-inflammatory medications across the lifespan.
7. Identify significant cultural assessment and factors when administering pain medications and anti-inflammatory medications.

Module #5

Material Covered:
                                     Chapter 12: Central Nervous System Depressants & Muscle Relaxants
                                     Chapter 13: Central Nervous System Stimulants & Related Drugs
                                     Chapter 14: Antiepileptic Drugs

Assessment(s):   Case studies, Mastery quizzing, home/in class assignments, exams

Learning Outcomes:

1. Define key terms: serotonin syndrome, black box warning, hypnotic, sedative, barbiturate, benzodiazepines, gamma-aminobutyric acid (GABA), ergot alkaloids, migraine, anticonvulsant, antiepileptic drug, electroencephalogram, epilepsy, focal onset seizure, generalized onset seizure, status epilepticus, tonic-clonic seizures, neurotransmitter.
2. Identify examples of drugs classified as a Benzodiazepine, Barbiturate, muscle relaxant, Serotonin Receptor Agonist, Antidepressant, Antiepileptic.
3. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important

drug–drug interactions associated with benzodiazepines, muscle relaxants, antidepressants, Serotonin Receptor Agonist, and antiepileptic medications.

4. Articulate a nursing care plan based on the nursing process for patients in pain related to the use of benzodiazepines, muscle relaxants, antidepressants, Serotonin Receptor Agonist, and antiepileptic medications.

5. Articulate a nursing care plan based on the nursing process for a patient taking benzodiazepines, muscle relaxants, antidepressants, Serotonin Receptor Agonist, and antiepileptic medications.

6. Explain the necessary patient education for patients receiving benzodiazepines, muscle relaxants, antidepressants, Serotonin Receptor Agonist, and antiepileptic medications.

7. Explain the safety measures necessary in the administration of benzodiazepines, muscle relaxants, antidepressants, Serotonin Receptor Agonist, and antiepileptic drugs across the lifespan.

8. Identify significant cultural factors when administering benzodiazepines, muscle relaxants, antidepressants, Serotonin Receptor Agonist, and antiepileptic drugs.

Module #6
Material Covered: Chapter 22: Antihypertensive Drugs
                            Chapter 23: Antianginal Drugs
                            Chapter 24: Heart Failure Drugs
Assessment(s):   Case studies, Mastery quizzing, home/in class assignments, exams

Learning Outcomes:
1. Define key terms: Hypertension, cardiac output, essential hypertension, orthostatic hypertension, secondary hypertension, atrial fibrillation, heart failure, inotropic, chronotropic, dronotropic.
2. List the criteria for the measure values for the hypertension categories.
3. Identify examples of drugs classified as Antihypertensives, anti-anginal, cardiac glycoside, Ca+ Channel Blocker, Beta Blocker, Angiotensin II Receptor Blocker, diuretic, Angiotensin-Converting Enzyme Blocker, Vasodilator.
4. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important drug–drug interactions associated with Beta-adrenergic receptor blockers, Calcium channel blockers, Angiotensin-converting enzyme (ACE) blockers, Angiotensin II Receptor Blocker, nitroglycerine, cardiac glycosides.
5. Articulate a nursing care plan based on the nursing process for a patient taking antihypertensives, antianginal and heart failure medications.
6. Explain the necessary patient education for patients receiving antihypertensives, antianginal and heart failure medications.
7. Explain the safety measures necessary in the administration of antihypertensives, antianginal and heart failure medications across the lifespan.
8. Identify significant cultural factors when administering antihypertensives, antianginal and heart failure medications.

Module #7

Material Covered: Chapter 26: Coagulation Modifier Drugs
                          Chapter 27: Antilipemic Drugs
Assessment(s):   Case studies, Mastery quizzing, home/in class assignments, exams

Learning Outcomes:
1. Define key terms: anticoagulant, antiplatelet, fibrinogen, antithrombin III, cholesterol, statins, triglycerides, hypercholesterolemia, coagulation, deep vein thrombosis, hemostasis.
2. Comprehend the basics of the coagulation process and the impact of anticoagulants and antiplatelet drugs.
3. Identify examples of drugs classified as anticoagulants, antiplatelet, and antilipidemic.
4. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important drug–drug interactions associated with coagulation modifier drugs, antilipidemic medications.
5. Articulate a nursing care plan based on the nursing process for a patient taking coagulation modifiers and antilipidemics medications.
6. Explain the necessary patient education for patients receiving coagulation modifiers and antilipemic medications.
7. Explain the safety measures necessary in the administration of coagulation modifiers and antilipemic medications across the lifespan.
8. Identify significant cultural factors when administering coagulation modifiers and antilipidemics medications.

Module #8

Material Covered: Chapter 28: Diuretic Drugs
                          Chapter 50: Acid Control Drugs
                          Chapter 52: Antiemetic & Antinausea Drugs
Assessment(s):   Case studies, Mastery quizzing, home/in class assignments, exams

Learning Outcomes:
1. Define key terms: aldosterone, nephron, loop of Henle, nonsteroidal antacid, hydrochloric acid, pepsin, mucous cells, antiemetic, emesis, chemoreceptor trigger zone (CTZ).
2. Compare differences between different classifications of diuretic drugs.
3. Identify examples of drugs classified as diuretic, acid controlling, antiemetic, and antinausea medications.
4. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important drug–drug interactions associated with diuretic, acid controlling, antiemetic, and antinausea medications.

5. Articulate a nursing care plan based on the nursing process for a patient taking diuretic, acid controlling, antiemetic, and antinausea medications.
6. Explain the necessary patient education for patients receiving diuretic, acid controlling, antiemetic, and antinausea medications.
7. Explain the safety measures necessary in the administration of diuretic, acid controlling, antiemetic, and antinausea medications across the lifespan.
8. Identify significant cultural factors when administering diuretic, acid controlling, antiemetic, and antinausea medications.

Module #9
Material Covered: Chapter 31: Thyroid and Antithyroid Drugs
                             Chapter 32: Diabetic Drugs
                             Chapter 33: Adrenal Drugs
     Assessment(s):   Case studies, Mastery quizzing, home/in class assignments, exams

Learning Outcomes:
1. Define key terms: Euthyroid, hypothyroidism, thyroid-stimulating hormone, thyroxine, insulin, hyperglycemia, hypoglycemia, glucose, hemoglobin AIC, diabetes mellitus, corticosteroids, adrenal cortex
2. Contrast differences between type 1 and type 2 diabetes.
3. Explain and compare rapid, sort, intermediate and long-acting insulins with regard to onset of action, peak effect, and duration.
4. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important drug–drug interactions associated with thyroid, diabetic and adrenal medications.
5. Articulate a nursing care plan based on the nursing process for a patient taking thyroid, diabetic and adrenal medications.
6. Explain the necessary patient education for patients receiving thyroid, diabetic and adrenal medications.
7. Explain the safety measures necessary in the administration thyroid, diabetic and adrenal medications across the lifespan.
8. Identify significant cultural factors when administering thyroid, diabetic and adrenal medications.

Module #10
Material Covered: Chapter 36: Antihistamines, Decongestants, Antitussives …
                                       Chapter 37: Respiratory Drugs
Assessment(s):   Case studies, Mastery quizzing, home/in class assignments, exams

Learning Outcomes:
1. Define key terms: antihistamine, antitussive, decongestant, expectorating, adrenergic, asthma attack, COPD, lower respiratory tract, upper respiratory tract, status asthmaticus, allergen, alveoli.

2. List the classification of drugs used to treat respiratory conditions and pulmonary disorders.
3. Identify medications for rescue and maintenance therapy in treating pulmonary disorders.
4. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important drug–drug interactions associated with respiratory conditions and pulmonary disease/disorders.
5. Articulate a nursing care plan based on the nursing process for a patient taking respiratory medications.
6. Explain the necessary patient education for patients receiving respiratory medications.
7. Explain the safety measures necessary in the administration respiratory medications across the lifespan.
8. Identify significant cultural factors when administering respiratory medications across the lifespan

Module #11

Material Covered: Chapter 38: Antibiotics Part I
                                 Chapter 39: Antibiotic Part II
Assessment(s):   Case studies, Mastery quizzing, home/in class assignments, exams

Learning Outcomes:

1. Define key terms: antibiotic, antiseptic, bactericidal, bacteriostatic, beta-lactam, beta-lactamase, c. difficile, community acquired infection, resistance, superinfection, prophylactic therapy, definitive therapy, empiric therapy, infection, resistance, therapeutic.
2. List the classification of drugs used to treat bacterial infections.
3. Articulate the significance of antibiotic resistance and methods of prevention of antibiotic resistance.
4. Explain the mechanism of action, indication, routes of administration, contraindications, laboratory testing, common adverse reactions, toxicity, cautions, contraindications, and important drug–drug interactions antibiotic medications.
5. Articulate a nursing care plan based on the nursing process for a patient taking antibiotic medications.
6. Explain the necessary patient education for patients receiving antibiotic medications.
7. Explain the safety measures necessary in the administration of antibiotic medications.
8. Identify significant cultural factors when administering antibiotic medications across the lifespan.

Part III: Grading and Assessment

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*

Students' performance will be assessed, and the weight associated with the various measures/artifacts are listed below.

EVALUATION*

2022-2023

Tests	80%
Assignments	10%
Quizzes (4%)	
Presentation/Teaching Sheet 6%)	
Final Exam (Comprehensive)	10%
	100%

Students must achieve a weighted exam average of 77 or greater on the unit exams and the final exam to pass this course.

* Quizzes and assignments will be added to the grade once the 77 average is achieved on the unit and final exams to calculate the overall theory grade.

*Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.

GRADING SYSTEM:

Because competency in nursing theory is a critical component for safe nursing practices, the grading scale for nursing is higher than for some other courses. The grading scale for nursing is:
A = 100 – 90
B = 89 – 80
C = 79 – 77
D = 76 – 60
F = 59 and below.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the academic calendar for deadlines for add/drop. You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

For online and hybrid courses, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, and if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

Part V: Student Resources

THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:
1. **Academic tutors** for most subject areas, **Writing Center support**, and **college success skills**.
2. Online **tutoring** and academic support resources.
3. Professional and interpersonal communication **coaching** in the EPIC Labs.

Visit the [Student Success & Tutoring Center](#) website for more information. To schedule tutoring appointments using TutorTrac, visit the Student Services tab in WaveNet. Email sstc@hgtc.edu or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the [Online Resource Center](#) to access on-demand resources.

STUDENT INFORMATION CENTER: TECH Central

TECH Central offers to all students the following **free** resources:
1. **Getting around HGTC**: General information and guidance for enrollment!
2. Use the [Online Resource Center (ORC)](#) including scheduled technology training, Office 365 support, password resets, and username information.
3. **Drop-in technology support or scheduled training** in the Center or in class.
4. **In-person workshops, online tutorials and more services** are available.
5. **Chat with our staff on TECH Talk**, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552.

Visit the [Tech Central](#) website for more information. Live Chat and Center locations are posted on the website. Or please call (843) 349 – TECH (8324).

2022-2023

STUDENT TESTING:

Testing in an **online/hybrid** course may be accomplished in a variety of ways:
- Test administered within D2L
- Test administered in writing on paper
- Test administered through Publisher Platforms

Further more tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through our online proctoring service. To find out more about proctoring services, please visit the Online Testing section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your course.

DISABILITY SERVICES:

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to HGTC's Accessibility and Disability Service webpage. The Accessibility and Disability staff will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:

Horry-Georgetown Technical College prohibits discrimination and harassment, including sexual harassment and abuse, on the basis of race, color, sex, national or ethnic origin, age, religion, disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation in educational programs and/or activities.

TITLE IX REQUIREMENTS:

All students (as well as other persons) at Horry-Georgetown Technical College are protected by Title IX—regardless of their sex, sexual orientation, gender identity, part- or full-time status, disability, race, or national origin—in all aspects of educational programs and activities. Any student, or other member of the college community, who believes that he/she is or has been a victim of sexual harassment or sexual violence may file a report with the college's Chief Student Services Officer, campus law enforcement, or with the college's Title IX Coordinator, or designee.

>	*Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

INQUIRIES REGARDING THE NON-DISCRIMINATION/TITLE IX POLICIES:

Student and prospective student inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Vice President for Student Affairs.

> **Dr. Melissa Batten, VP Student Affairs**
> *Title IX Coordinator*
> Building 1100, Room 107A, Conway Campus
> PO Box 261966, Conway, SC 29528-6066
> 843-349-5228
> Melissa.Batten@hgtc.edu

Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Vice President for Human Resources.

> **Jacquelyne Snyder, VP Human Resources**
> *EEO and Title IX Coordinator*
> Building 200, Room 212A, Conway Campus
> PO Box 261966, Conway, SC 29528-6066
> 843-349-5212
> Jacquelyne.Snyder@hgtc.edu