

Pathophysiology and Pharmacology (HITT 2471) Online



Credit: 4 semester credit hours (3 hours lecture: 3 hours lab)

Prerequisite/Co-requisite: BIOL 2301 & 2302; Complete the Online Orientation and answer yes to 7+ questions on the Online Learner Self-Assessment:
<http://www.lit.edu/depts/DistanceEd/OnlineOrientation/OOStep2.aspx>

Course Description:

Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and the physical and psychological reactions to diseases and injuries. Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems. *This course is time-bound, structured, and completed totally online.*

Required Textbook and Materials:

1. *Disease Processes and Treatment Protocols*, 2nd edition. Pearson Publishing.
 - a. ISBN: 9781323293997
2. Internet access

Course Objectives:

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

1. Identify the development of diseases and disorders of the human body.
2. Identify medical and surgical treatment processes.
3. Identify the fundamental characteristics of common diseases and conditions.
4. Assess environmental factors, physical, psychosocial, and cognitive characteristics of various diseases and conditions
5. Recognize the implications of therapeutic interventions for common diseases and conditions.
6. Identify the drugs associated with the treatment process.
7. Assess drug therapy, dosages, actions and drug administration routes

Course Outline:

- | | |
|--|--|
| A. Introduction to Human Disease | h. Nonspecific Immunity |
| a. Disease Concepts and Terminology | i. Specific Immunity |
| b. Causes of Disease | j. Principles of Infectious Disease |
| c. Risk factors | k. Transmission of Infectious Disease |
| d. Health Promotion and Disease Prevention | l. Nosocomial infections |
| e. Treatment of Disease | m. Control of Infectious Diseases |
| f. Immunity and Disease | n. Survey of Pathogenic Microorganisms |
| g. Immunity | o. Treatment of Infectious disease |

Revised January 2018

HITT 2471 Online
Course Syllabus

- p. Emerging and Reemerging Infectious Diseases
- B. Introduction to Pharmacology
 - a. Origins of Pharmacology Words
 - b. Medical Uses for Drugs
 - c. Drugs in Ancient Times
 - d. Modern Drugs Derived from Natural Sources
 - e. Drugs in the 1800s and 1900s
 - f. Pharmaceutical Timeline
 - g. Mislabeled and Dangerous Drugs
 - h. Drug Legislation and Drug Agencies
 - i. Prescription and Over-the-Counter Drugs
 - j. Schedule Drugs
 - k. Designer Drugs
 - l. Orphan Drugs
 - m. Drug Discovery and Creation
 - n. Drug Names
 - o. Drug Marketing
 - p. Drug Patients
 - q. Drug Withdrawals and Recalls
- C. Mechanisms of Drug Delivery
 - a. Tablets
 - b. Capsule
 - c. Film
 - d. Ointment
 - e. Cream
 - f. Lotion
 - g. Liquid
 - h. Powder
 - i. Suppository
 - j. Transdermal Patch
 - k. Pellet, Bead, Wafer, and Insert
 - l. Steps in the Drug Cycle
 - m. Basis of Drug Effects
 - n. Local Versus Systemic Effects of Drugs
 - o. Therapeutic Effect of a Drug
 - p. Side Effect of a Drug
 - q. Adverse Effect of a Drug
 - r. Toxic Effects of a Drug
 - s. Paradoxical Effects of a Drug
 - t. Allergic Reactions to a Drug
 - u. Idiosyncratic Reactions to a Drug
- v. Drug-Drug and Drug-Food Interactions
- w. The Pharmacist
- D. Dermatology and Hematology
 - a. Anatomy and Physiology Review
 - b. Diagnostic Tests and Procedures
 - c. Skin Lesions
 - d. Epidermoid Cysts
 - e. Infectious Skin Diseases
 - f. Hypersensitivity or Immune Disorders of the Skin
 - g. Benign Tumors of Skin
 - h. Anemia
 - i. Treatment Protocols
 - j. Anti-Infective Drugs
 - k. Sulfonamide Anti-Infective Drugs
 - l. Antibiotic Drugs
 - m. Drugs Used to Treat HIV and AIDS
 - n. Drugs Used to Treat Diseases Related to HIV and AIDS
 - o. Drugs Used to Treat Other Viral Infections
 - p. Drugs Used to Treat Fungal and Yeast Infections
 - q. Drugs Used to Treat Eye Infections
- E. Cancer and Chemotherapy Drugs
 - a. Introduction
 - b. Epidemiology
 - c. Tumor Formation
 - d. Naming Tumors
 - e. Known Risk Factors for Cancer
 - f. Signs and Symptoms of Cancer
 - g. Etiology of cancer
 - h. Diagnosis of Cancer
 - i. Grading and Staging Cancer
 - j. Cancer Treatment
 - k. Cancer Prevention
 - l. Chemotherapy Drugs
 - m. Antimetabolite Chemotherapy Drugs
 - n. Alkylating Chemotherapy Drugs
 - o. Demethylating Chemotherapy Drugs

HITT 2471 Online
Course Syllabus

- p. Chemotherapy Antibiotic Drugs
 - q. Hormone Chemotherapy Drugs
 - r. Mitosis Inhibitor Chemotherapy Drugs
 - s. Platinum Chemotherapy Drugs
 - t. Chemotherapy Enzyme Drugs
 - u. Retinoid and Reginoid Chemotherapy Drugs
 - v. Monoclonal Antibody Drugs
 - w. Immunomodulator Chemotherapy Drugs
 - x. Kinase Inhibitor Chemotherapy Drugs
 - y. Miscellaneous Chemotherapy Drugs
 - z. Corticosteroid Drugs
 - aa. Chemotherapy Protocols
 - bb. Drugs Used to Protect Against Chemotherapy Toxicity
 - cc. Antiemetic Drugs Used with Chemotherapy
- F. Respiratory
- a. Anatomy and Physiology Review
 - b. Diagnostic Tests and Procedures
 - c. Upper Respiratory Diseases
 - d. Lower Respiratory Diseases
 - e. Age-Related Diseases
 - f. Treatment Protocols
 - g. Respiratory Drugs
 - h. Bronchodilator Drugs
 - i. Corticosteroid Drugs
 - j. Leukotriene Formation Inhibitor Drugs and Leukotriene Receptor Blocker Drugs
 - k. Mast Cell Stabilizer Drugs
 - l. Expectorant Drugs
 - m. Drugs Used to Treat Tuberculosis
 - n. Drugs Used to Stop Smoking
- G. Cardiovascular
- a. Anatomy and Physiology Review
 - b. Cardiovascular Disease
 - c. Congestive Heart Failure
 - d. Heart Disease in Infants and Children
 - e. Age-Related Disease
 - f. Treatment Protocols
 - g. Cardiovascular Drugs
 - h. Drugs Used to Treat Hypertension
 - i. Drugs Used to Treat Hyperlipidemia
 - j. Drugs Used to Treat Congestive Heart Failure
 - k. Drugs Used to Treat Angina Pectoris
 - l. Drugs Used to Treat Myocardial Infection
 - m. Drugs Used to Treat Arrhythmias
 - n. Drugs Used to Treat Cardiac Arrest
- H. Musculoskeletal
- a. Anatomy and Physiology Review
 - b. Diagnostic Tests and Procedures
 - c. Diseases of Bones
 - d. Diseases and Disorders of Joints
 - e. Diseases of the Muscles
 - f. Age-related diseases
 - g. Treatment Protocols – Musculoskeletal Drugs
 - h. Drugs Used to Treat Osteoarthritis
 - i. Drugs Used to Treat Rheumatoid Arthritis
 - j. Drugs Used to Treat Osteoporosis
 - k. Skeletal Muscle Relaxant Drugs
 - l. Drugs Used to Treat Fibromyalgia
- I. Gastrointestinal
- a. Anatomy and Physiology Review
 - b. Diagnostic Tests and Procedures
 - c. Diseases of the Mouth
 - d. Diseases of the Esophagus
 - e. Diseases of the Stomach
 - f. Diseases of the Intestines
 - g. Diseases Indicated by Stool Characteristics
 - h. Diseases of the Liver
 - i. Diseases of the Gallbladder
 - j. Diseases of the Pancreas
 - k. Age-Related Diseases

HITT 2471 Online
Course Syllabus

- l. Treatment Protocols – Gastrointestinal Drugs
 - m. Drugs Used to Treat Gastroesophageal Reflux Disease
 - n. Drugs Used to Treat Peptic Ulcers
 - o. Drugs Used to Treat Diarrhea
 - p. Laxative Drugs
 - q. Drugs Used to Treat Diseases of the Intestines
 - r. Antiemetic Drugs
 - s. Drugs Used to Treat Obesity
- J. Renal
- a. Anatomy and Physiology Review
 - b. Diagnostic Tests and Procedures
 - c. Acute Diseases and Disorders
 - d. Chronic Diseases and Disorders
 - e. Congenital Disorders
 - f. Age-Related Diseases
 - g. Treatment Protocols – Urinary Drugs
 - h. Diuretic Drugs
 - i. Potassium Chloride Drugs
 - j. Drugs Used to Treat Urinary Tract Infections
 - k. Urinary Tract Analgesic Drugs
 - l. Urinary Tract Antispasmodic Drugs
 - m. Drugs Used to Treat overactive Bladder
 - n. Drugs Used to Treat Benign Prostatic Hypertrophy
 - o. Drugs Used to Treat Erectile Dysfunction
- K. Reproductive
- a. Anatomy and Physiology of the Female Reproductive System
 - b. Diagnostic Tests and Procedures
 - c. Diseases of the Female Reproductive System
 - d. Benign conditions of the Breast
 - e. Menstrual Disorders
 - f. Disorders of Pregnancy
 - g. Female Age-Related Diseases
 - h. Anatomy and Physiology of the Male Reproductive System
 - i. Diagnostic Tests and Procedures
 - j. Diseases of the Male Reproductive System
 - k. Male Age-Related Diseases
 - l. Sexually Transmitted Infections
 - m. Treatment Protocols – Gynecologic and Obstetric Drugs
 - n. Drugs Used to Prevent Pregnancy
 - o. Drugs Used to Treat Infertility
 - p. Drugs Used During Pregnancy
 - q. Drugs Used to Treat Preterm Labor
 - r. Drugs Used to Induce Labor
 - s. Drugs Used to Treat the Pain of Labor and Delivery
 - t. Drugs Used to Treat Postpartum Bleeding
 - u. Drugs Used to Treat Postpartum Depression
 - v. Drugs Used to Treat Endometriosis
 - w. Drugs Used to Treat Dysmenorrhea and Premenstrual Syndrome
 - x. Drugs Used to Treat Abnormal Menstruation
 - y. Drugs Used to Treat Vaginal Infections
 - z. Drugs Used to Treat Sexually Transmitted Diseases
 - aa. Drugs Used to Treat Menopause
 - bb. Drugs Used to Treat Diseases Related to Menopause
 - cc. Other Gynecologic and Obstetric Drugs
- L. Endocrine
- a. Anatomy and Physiology Review
 - b. Pituitary Gland
 - c. Thyroid Gland
 - d. Parathyroid Glands
 - e. Adrenal Glands
 - f. Endocrine Pancreas
 - g. Ovaries and Testes
 - h. Diagnostic Tests and Procedures
 - i. Diseases of the Pituitary

HITT 2471 Online
Course Syllabus

- j. Diseases of the Thyroid Gland
 - k. Diseases of Parathyroid Gland
 - l. Diseases of the Adrenal Glands
 - m. Hyposecretion of the Pancreas
 - n. Abnormalities in Secretion of Sex Hormones
 - o. Age-Related Diseases
 - p. Treatment Protocols – Endocrine Drugs
 - q. Insulin Drugs Used to Treat Diabetes Mellitus
 - r. Oral Antidiabetic Drugs
 - s. Other Antidiabetic Drugs
 - t. Drugs Used to Treat Diseases of the Thyroid Gland
 - u. Drugs Used to Treat Diseases of the Pituitary Gland
 - v. Drugs Used to Treat Diseases of the Adrenal Glands
 - w. Corticosteroid Drugs
 - x. Drugs Used to Treat Diseases of the Testes
 - y. Drugs Used to Treat Diseases of the Ovaries
 - z. Anabolic Steroid Drugs
- M. Neurology
- a. Anatomy and Physiology Review
 - b. Diagnostic Tests and Procedures
 - c. Brain and Spinal Cord Trauma
 - d. Epilepsy
 - e. Stroke
 - f. Disorders of the Cranial Nerves
 - g. Infectious Diseases of the Nervous System
 - h. Degenerative Diseases of the Nervous System
 - i. Developmental and Congenital Disorders
 - j. Brain tumors
 - k. Age-Related Diseases
 - l. Treatment Protocols – Neurologic Drugs
 - m. Drugs Used to Treat Epilepsy
 - n. Drugs Used to Treat Dementia and Alzheimer’s Disease
 - o. Drugs Used to Treat Parkinson’s Disease
 - p. Drugs Used to Treat Multiple Sclerosis
 - q. Drugs Used to Treat Neuropathy and Neuralgia
 - r. Drugs Used to Treat Insomnia
- N. Psychiatric
- a. Introduction
 - b. Risk Factors
 - c. Early Warning Signs and Symptoms of Mental Disorders
 - d. Causes of Mental Disorders
 - e. Diagnosing Mental Disorders
 - f. Treating Mental Disorders
 - g. Specific Mental Disorders
 - h. Age-related disorders
 - i. Treatment Protocols – Psychiatric Drugs
 - j. Drugs Used to Treat Neurosis and Anxiety
 - k. Drugs Used to Treat Social Anxiety Disorder
 - l. Drugs Used to Treat Panic Disorder
 - m. Drugs Used to Treat Obsessive-Compulsive Disorder
 - n. Drugs Used to Treat Psychosis and Schizophrenia
 - o. Drugs Used to Treat Depression
 - p. Drugs Used to Treat Bipolar Disorder
 - q. Drugs Used to Treat Eating Disorders
 - r. Drugs Used to Treat Premenstrual Dysphoric Disorder
 - s. Drugs Used to Treat Attention-Deficit Hyperactivity Disorder
 - t. Drugs Used to Treat Withdrawal from Addiction

Grade Scale:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Course Evaluation:

Final grades will be calculated according to the following criteria:

Chapter quizzes/Assignments	20%
Participation/Discussions	20%
Unit Exams (5)	45%
Final Exam	15%

Course Policies:

1. Students must provide their own textbooks, writing instruments, and other necessary supplies for classes.
2. Students must log onto Blackboard and access this course a minimum of 3 times per week.
3. Internet Usage – Students are expected to use proper net etiquette while participating in course emails, assignment submissions, and online discussions.
4. Cheating of any kind will not be tolerated. If proven to have cheated, a grade of “0” will be assigned and possible expulsion from the class and/or program.
5. All exams will be taken on the scheduled dates. There will be **NO MAKE UP EXAMS.**
6. All assignments are due when stated. Late assignments are not accepted.
7. Additional course policies are outlined in “Classroom Policies” provided at the beginning of the semester.
8. Students are expected to follow the Lamar Institute of Technology Code of Conduct and Disciplinary Policy
9. Any violation of classroom policies may result in student being asked to leave class and result in an absence.
10. **If you wish to drop a course, the student is responsible for initiating and dropping the course. If you stop logging-in to the course and do not complete the course drop process, then you will receive an “F” grade for the course.**
11. The instructor will respond to e-mail and voice mail communication within 24 hours Monday through Friday with the exception of weekends and holidays. Assignment grades will be published within 2 weeks of the assignment due date.
12. **After all assignments have been submitted and graded**, if you have a Final Class Grade of “90 or Above”, your instructor will email you regarding your opportunity to be exempt from the final due to your class average. You can also choose to take the final exam, even if your Final Class Grade is “90 or Above”.

Technical Requirements:

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

<http://kb.blackboard.com/pages/viewpage.action?pageId=25368512>

A functional internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

Disabilities Statement:

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the online resource:

<http://www.lit.edu/depts/stuserv/special/defaults.aspx>

Student Code of Conduct Statement:

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office.