El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Health Information Management**
COURSE RUBRIC AND NUMBER	**HITT 2471**
COURSE TITLE	**Pharmacology and Pathophysiology**
COURSE CREDIT HOURS	**4 (Credits) 3 (Lec) : 4 (Lab)**

I. Catalog Description

Studies pathology and general health management of diseases and injuries across the life span. Includes topics on etiology, symptoms, and the physical and psychological reactions to diseases and injuries. Studies drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages. A grade of "C" or better is required in this course to take the next course. **Prerequisites: BIOL 2404. (3:4). Lab fee.**

NOTE: HITT 2471 is an online course.

II. Course Objectives

Unit I. Introduction to Human Disease/Introduction to PharmacologyPharmacology/MechanismsDrug Delivery

- Define basic terminology used in the study of human disease.
- Identify the major cause of disease.
- Identify risk factors related to disease.
- Describe the origin and meaning of the words pharmacology, drug, medicine, and Rx.
- Describe the three general medical uses for drugs.
- Name several drug derived from plant, animal, or mineral sources that are still in use today.
- Describe what types of drugs were used in the past.
- Name 10 major pharmaceutical milestones that have occurred since the 1800s.
- Describe the use of mislabeled and dangerous drugs and the problem they presented in the past for consumer safety.
- Describe the origin and content of the various drug laws.
- Describe the function of the Food and Drug Administration (FDA).
- Differentiate between prescription and over-the-counter (OTC) drugs.
- Describe the five categories of controlled substances and give example.
- Describe designer drug and orphan drugs and their uses.
- Name the various forms in which drugs manufactured.
- Describe seven different types of tablets.
- Describe the difference between an ointment, a cream, and a lotion.
- Name seven different types of drugs that come in a solution form.
- Describe the difference between a solution and a suspension
- Describe how pellets, beads, wafers, and inserts are used as drug forms.

Unit II. Dermatology and Hematology/Cancer and Chemotherapy Drugs/Respiratory

- Describe the normal structure and function of the integumentary system.
- Describe the prevalence, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for infectious diseases of the skin.
- Understand the effects of hypersensitivity or immune disorders on the skin.
- Define and differentiate the benign tumors of the skin.
- Describe the prevalence, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for nonmelanoma and melanoma skin cancer.
- Explain the causes and treatments of sebaceous gland disorder.
- Describe pigment disorders.
- Describe different types of skin trauma.
- Describe the prevalence, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for age-related diseases of the skin.
- Compare and contrast how different categories of antibiotic drugs kill bacteria.
- Explain the significance of the beta-lactam ring and penicillinase.
- Describe historical milestones in the development of penicillin.
- Explain how various consumer, medical, and environmental factors produce antibiotic-resistant bacteria.
- Compare and contrast how different categories of antiviral drugs act to treat HIV and AIDS.
- Describe the development of drugs used to treat HIV and AIDS.
- Describe the treatment of opportunistic infections associated with HIV and AIDS.
- Explain why fungal and yeast infections are often treated with the same drugs.
- When given the name of a well-known anti-infective generic drug, identify its trade name.
- When given the generic and trade names of anti-infective drug, identify what drug category it belongs to and what disease it is used to treat.
- When given an anti-infective drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category
- Define basic cancer terminology.
- Compare benign and malignant tumors.
- Explain how benign and malignant tumors are named.
- Identify the known risk factors for cancer.
- Describe the etiology of cancer.
- Describe how cancer is diagnosed.
- Describe how cancer is treated.
- Describe how cancer can be prevented.
- Name several categories of chemotherapy drugs.
- Compare and contrast the therapeutic effects of antimetabolite chemotherapy drugs, alkylating chemotherapy drugs, and demethylating chemotherapy drugs.
- Describe how the therapeutic effect of antibiotic chemotherapy drugs differs from that of regular antibiotic drugs.
- Explain why hormonal chemotherapy drugs are only used to treat certain types of cancer.
- Compare and contrast the therapeutic effects of mitosis inhibitor chemotherapy drugs, platinum chemotherapy drugs, chemotherapy enzyme drugs, and retinoid and rexinoid chemotherapy drugs.
- Compare and contrast the therapeutic effects of interleukin, interferon, monoclonal antibody chemotherapy drugs, and immunomodulator chemotherapy drugs.
- Explain the role that corticosteroid drugs play in treating cancer.
- Describe the advantages of using a chemotherapy protocol to treat cancer.
- Describe the normal structure and function of the respiratory system.

- Identify common signs and symptoms associated with respiratory diseases.
- Describe diagnostic testing used in respiratory diseases.
- Describe the incidence, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for upper respiratory diseases.
- Describe the incidence, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for lower respiratory diseases.
- Describe the effects of aging on the respiratory system.
- Compare and contrast the therapeutic effects of bronchodilator drugs and corticosteroid drugs.
- Name several types of inhaler devices and describe how they work.
- Describe the therapeutic effects of leukotriene formation inhibitor drugs, leukotriene receptor blocker drugs, monoclonal antibody drugs, and mast cell stabilizer drugs.
- Describe the therapeutic effect of expectorant drugs.
- Explain why tuberculosis must be treated with several different antitubercular drugs at the same time.
- Describe the therapeutic effect of drugs to help a person stop smoking.
- When given the name of a well-known respiratory generic drug, identify its trade name.
- When given a respiratory drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category.

Unit III Cardiovascular/Musculoskeletal/Gastrointestinal

- Describe the normal structure and function of the heart and blood vessels.
- Describe the key characteristics of the diseases of the arterial circulation and heart.
- Explain the role of arteriosclerosis and atherosclerosis in cardiovascular disease.
- Identify the role of hyperlipidemia in atherosclerosis.
- Describe the etiology, signs, and risks associated with arterial hypertension.
- Compare and contrast pulmonary hypertension and arterial hypertension.
- Describe the role of varicose veins in peripheral vascular disease.
- Understand the risks associated with venous thrombosis.
- Understand the distinguishing features of heart valve stenosis and heart valve regurgitation.
- Explain the different types of atrial and ventricular arrhythmias.
- Name the etiologies of shock.
- Describe normal fetal circulation.
- Describe the epidemiology, symptoms, etiology, diagnosis, and treatment of congenital heart abnormalities.
- Review the risks and pathological changes associated with heart disease in older adults.
- Compare and contrast the therapeutic effect of beta-blocker drugs versus calcium channel blocker drugs versus ACE inhibitor drug.
- Name five different diseases that propranolol is used to treat.
- Compare and contrast the therapeutic effect of bile acid sequestrate drugs versus “statin drugs.”
- List three ways in which digitalis toxicity can be treated.
- Describe the therapeutic effect of nitrate drugs.
- When given the name of well-known cardiovascular generic drug, identify its trade name.
- When given the generic and trade names of a cardiovascular drug, identify what drug category it belongs to and what disease it is used to treat.
- When given a cardiovascular drug category, identify several generic and trade names drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category.
- Understand the normal structure and function of bones, joints and muscle.
- Describe the etiology, signs and symptoms, diagnostic tests, and treatment of infectious diseases of bone.
- Explain how vitamin and mineral deficiencies lead to bone disease.
- Describe the etiology, signs and symptoms, diagnostic test, and treatment of bone diseases and fractures.

- Describe the etiology, signs and symptoms, diagnostic tests, and treatment of the common types of arthritis, gout, and bursitis.
- Identify the etiology, signs and symptoms, diagnostic tests, and treatment of herniated discs, dislocations, sprains, strains, and carpal tunnel syndrome.
- Describe the etiology, signs and symptoms, diagnostic test, and treatment of muscular dystrophy and myasthenia gravis.
- Understand age-related changes and diseases of the musculoskeletal system.
- Compare and contrast the therapeutic effects of the different categories of drugs used to treat osteoarthritis.
- Compare and contrast the therapeutic effects of the different categories of drugs used to treat rheumatoid arthritis.
- List several factors that contribute to the development of osteoporosis.
- Describe the therapeutic effects of the different categories of drugs used to treat osteoporosis.
- Describe the therapeutic effects of skeletal muscle relaxant drugs and of drugs used to treat fibromyalgia.
- When given the name of a well-known musculoskeletal generic drug, identify its trade name.
- When given the generic and trade names of a musculoskeletal drug, identify what drug category it belongs to and what disease it is used to treat.
- When given a musculoskeletal drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category.
- Describe the normal structure and function of the digestive tract.
- Describe the key characteristics of major diseases of the digestive tract.
- Name the diagnostic tests for diseases of the digestive tract.
- Explain the etiology of gastrointestinal diseases.
- Describe the treatment options for diseases of the digestive tract.
- Describe the normal structure and function of the liver, gallbladder, and pancreas.
- Describe the key characteristics of major diseases of the liver, gallbladder, and pancreas.
- Name the diagnostic tests for diseases of the liver, gallbladder, and pancreas.
- Explain the etiology of liver, gallbladder, and pancreas diseases.
- Describe the treatment options for diseases of the liver, gallbladder, and pancreas.
- Describe age-related diseases of the digestive system.
- Differentiate between the therapeutic effects of antacid drugs, H blocker drugs, and proton pump inhibitor drugs in treating peptic ulcer disease.
- Describe how anticholinergic drugs work to treat diarrhea and gastrointestinal spasms from irritable bowel syndrome.
- Describe the therapeutic effect of narcotic drugs that is useful in treating diarrhea.
- Name five categories of laxative drugs and describe their therapeutic effects.
- Describe the ways in which antiemetic drugs treat different causes of nausea and vomiting.
- Describe the therapeutic effects of drugs used to treat obesity.
- When given the name of well-known gastrointestinal generic drug, identify is trade name.
- When given the generic and trade names of a gastrointestinal drug, identify what drug category it belongs to and what disease it is used to treat.
- When given a gastrointestinal drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several genetic drugs, identify the related drug category.

Unit IV Renal/Reproductive/Endocrine

- Describe the anatomy and the functions of kidneys, nephrons, ureters, urinary bladder, and urethra.
- Identify the etiology, signs and symptoms, diagnostic tests, and treatment for acute kidney injury and other acute and inflammatory diseases of the urinary system.

- Know the etiology, and describe the signs and symptoms, diagnostic test, and treatment of urinary tract infections.
- Identify the etiology, signs and symptoms, diagnostic tests, and treatment for chronic kidney disease, hypertensive kidney disease, diabetic nephropathy, nephrotic syndrome, end-stage renal disease, and other chronic diseases of the urinary system.
- Describe kidney dialysis.
- Recognize the etiology, signs and symptoms, and modes of treatment for renal cell carcinoma, Wilms' tumor, and bladder cancer.
- Describe common congenital disorders of the urinary system.
- Describe common age-related diseases of the urinary system.
- Compare and contrast the site of action and therapeutic effect of various diuretic drugs.
- Explain why potassium chloride drugs are given to patients taking diuretic drugs.
- Describe the therapeutic effects of drugs used to treat urinary tract infections, urinary tract pain, urinary tract spasm, and overactive bladder.
- Compare and contrast the therapeutic effects of drugs used to treat the male urinary problems of benign prostatic hypertrophy and erectile dysfunctions.
- When given the name of a well-known urinary generic drug, identify its trade name.
- When given the generic and trade names of a urinary tract drug, identify what drug category it belongs to and what disease it is used to treat.
- When given a urinary tract drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several generic drugs identity the related drug category.
- Describe the normal structure and function of the reproductive system.
- Describe the incident, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for diseases and disorders of the reproductive system.
- Describe disorders of pregnancy.
- Describe the incident, risk factors, signs and symptoms, etiology, diagnosis treatment, and prevention for sexually transmitted infections (STIs).
- Describe the prevalence, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for age-related diseases of the reproductive system.
- Describe the difference between monophasic, biphasic, triphasic, and fourphasic oral contraceptive drugs.
- Describe the therapeutic effect of ovulation-stimulating drugs used to treat infertility.
- Describe the types of drugs that are and are not prescribed to pregnant women.
- Describe the therapeutic effects of drugs used during labor and delivery and in the postpartum period.
- Describe what drugs are used to treat endometriosis, dysmenorrhea, and abnormal menstruation.
- Describe the types of drugs used to treat vaginal infections and sexually transmitted diseases.
- Discuss the types of drugs used to treat menopause and risks involved with taking hormone replacement therapy drugs.
- When given the name of a well-known OB-GYN generic drug, identify its trade name.
- When given the generic and trade names of an OB-GYN drug, identify what drug category it belongs to and what disease it is used to treat.
- When given an OB-GYN drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category.
- Describe the functions of the endocrine glands and the hypothalamus.
- Identify the various hormones and their functions.
- Describe the consequences of hyposecretion and hypersecretion of endocrine hormones.
- Describe the incident, risk factors, signs and symptoms, etiology, diagnosis, treatment, and prevention for diseases and disorders of the endocrine system.
- Identify age-related changes in endocrine function.
- Compare and contrast the causes and treatments of diabetes mellitus type 1 and type 2.

- Differentiate between the therapeutic effects of insulin and those of other categories of oral antidiabetic drugs.
- Name drugs used to treat hyperthyroidism and hypothyroidism.
- Compare and contrast the therapeutic effects of drugs used to treat diseases caused by hypersecretion and hyposecretion of hormones from the pituitary gland.
- Differentiate between the therapeutic effects of corticosteroid drugs versus anabolic steroid drugs.
- When given the name of a well-known endocrine generic drug, identify its trade name.
- When given the generic and trade names of an endocrine drug, identify what drug category it belongs to and what disease it is used to treat.
- When given a drug category, identify several generic or trade name endocrine drugs in that category.
- When given an ending common to several generic or trade name endocrine drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category.

Unit V Neurology/Psychiatric

- Recognize the basic structure and functions of the nervous system and major sensory processes.
- Describe the etiology, signs, symptoms, and treatments for traumatic brain injury and traumatic spinal cord injury.
- Differentiate the signs and symptoms of the different types of epilepsy, and describe associated etiology, risk factors, and treatments.
- Discuss the etiology, signs and symptoms, diagnostic test, and treatment of stroke.
- Describe the etiology, signs and symptoms, and prognosis of cranial nerve disorders.
- Describe the etiology, signs and symptoms, diagnostic tests, and treatment of infectious diseases of the nervous system.
- Describe degenerative diseases of the central nervous system, including Alzheimer's disease, multiple sclerosis, Huntington's chorea, Parkinson's disease, and amyotrophic lateral sclerosis.
- Understand the etiology, symptoms, treatment, and prognosis of developmental neurological conditions.
- Understand the differences between benign and malignant tumors of the brain.
- Review age-related diseases of the nervous system.
- Name and describe the therapeutic effects of four categories of drugs used to treat seizures.
- Name and describe the therapeutic effects five categories of drugs used to treat Parkinson's disease.
- Describe the therapeutic effects of categories of drugs used to treat dementia and Alzheimer's disease, multiple sclerosis, neuralgia, neuropathy, and insomnia.
- Explain the difficulties physicians face in treating the lack of dopamine that characterizes Parkinson's disease.
- When given the name of a well-known neurologic drug, identify its trade name.
- When given the generic and trade names of a neurologic drug, identify what drug category it belongs to and what disease it is used trade name.
- When given a neurologic drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category.
- Discuss risk factors for developing a mental disorder.
- List the early warning signs and symptoms of a mental disorder.
- Discuss the of causes mental disorders.
- Describe how mental disorders are diagnosed.
- Describe treatment options for mental disorders.
- Describe the incidence, signs and symptoms, etiology, diagnosis, treatment, and prevention for the major mental disorders.
- Name and describe the therapeutic effects of categories of drugs used to treat various types of mental illness, including neurosis and anxiety, psychosis and schizophrenia, depression, bipolar disorder, attention-deficit hyperactivity disorder, and withdrawal from addition.

- Give alternative names for the antianxiety and antipsychotic categories of drugs.
- Describe the cause, symptoms, and treatment for tardive dyskinesia.
- Describe dietary restrictions for patients taking MAO inhibitor drugs.
- When given the name of a well-known psychiatric generic drug, identify its trade name.
- When given the generic and trade names of psychiatric drug, identify what drug category it belongs to and what mental disorder it is used to treat.
- When given a psychiatric drug category, identify several generic and trade name drugs in that category.
- When given an ending common to several generic drugs, identify the related drug category.

III. Evaluation

A. The course grade is determined by

1. Unit Tests/Quizzes	35%	toward final grade
2. Comprehensive Final Exam	20%	toward final grade
3. Lab Activities/Homework & Participation	35%	toward final grade
4. Current Trends Reports	10%	toward final grade
TOTAL	100%	

B. This is an online course. Students are encouraged to seek direction and help for those areas in which they experiences difficulty. The course instructor may assign remedial or tutorial work designed to enhance student proficiency.
C. The student must receive a grade of "C" or better to pass this course.
D. A student not adhering to Health Occupation's Criteria for Course Pursuit may be administratively withdrawn from this course. (See attached)
E. Grading Scale

93 - 100 = A
83 - 92 = B
75 - 82 = C
74 - 63 = D (Failing for HITT)
0 - 62 = Failing

IV. Disability Statement (American with/Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

V. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

VII. Title IX and Sex Discrimination

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The

Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.

HEALTH OCCUPATIONS DIVISION CRITERIA FOR COURSE PURSUIT

In order to establish guidelines for determining when a student has ceased to pursue the course objectives, the Health Occupations Division has set the following applicable standards.

1. The student must adhere to the attendance requirements of course HITT 2471. In order to pursue the course, the student must attend a minimum of 57 hours of instruction. (Meets a total of 112 hours. Online "attendance"/compliance will be monitored.)

2. The student will not be able to make up campus-based theory hours (if any). The student will be able to make up lab hours at the discretion of the instruction.

3. If meeting on-Campus, for an activity, tardiness will be defined as being fifteen (15) minutes or more late to laboratory sessions and fifteen (15) minutes or more late to theory sessions. Students will be allow two (2) events of tardiness, after which the tardiness will be considered and absence. (Of course, being an online course, this criteria will apply to scheduled online sessions, when applicable.)

4. The student also must follow the standards established in the El Paso Community College Catalog.

5. Where the student continues to pursue the course objectives but is receiving failing grades, he/she will remain eligible to complete the course, except in instances where unsafe practice occurs.

6. The student must appear for examinations, presentations, or other required class activities and submit required papers, projects, and/or reports as identified in the course syllabus/calendar.

Failure of the student to follow the above will indicate the student is no longer pursuing the objectives of the course and will result in faculty initiated withdrawal.

EL PASO COMMUNITY COLLEGE
HEALTH OCCUPATIONS DIVISION
SCHOLASTIC DISHONESTY

Scholastic dishonesty shall constitute a violation of rules and regulations and is punishable as prescribed by Board policies. Scholastic dishonesty shall include, but not be limited to, cheating on a test, plagiarism, and collusion. "Cheating" shall include:

1. Copying from another student's paper.

2. Using test material not authorized by the person administering the test.

3. Unauthorized collaborating with or seeking aid from another student.

4. Knowingly using, buying, selling, stealing, or soliciting, in whole or in part, the contents of a test.

5. The unauthorized transportation or removal, in whole or in part, of the contents of the test.

6. Substituting for another student, or permitting another student to substitute for one's self, to take a test.

7. Bribing another person to obtain a test or information about a test.

8. "Collusion" shall be defined as the unauthorized collaboration with another person in preparing written work for fulfillment of course requirements.

9. Any student involved in scholastic dishonesty as identified above, or in the Student Handbook, may, at the discretion of the faculty:

    a. Have the test or paper graded zero (0).
    b. Be removed from the class.
    c. Be recommended for administrative dismissal from the course or program.

The stringency of his policy is understandable when read in the context of an educational program preparing individuals for a health career where the safety and well-being of the public are largely dependent upon the knowledge and ethical responsibility of the health personnel. Evidence of unethical behavior, such cheating, precludes the instructional faculty's ability to declare prospective graduates to be reliable and ethical.