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Biology (BIOL) 2265 Human Pathophysiology (3 Units) CSU

Prerequisite: Successful completion of BIOL 2250 and BIOL 2257 with a grade of “C” or better.

Advisory: Eligibility for English 1500 strongly recommended.

Total Hours: 48 hours lecture

Catalog Description: An introduction to the basic fundamentals of pathophysiology, focusing on essential concepts of physiologic changes and altered functions to the human body resulting from disease processes. Principles from anatomy, physiology, microbiology, and chemistry will provide the foundation for the study of pathophysiology, body systems, etiology, and pathogenesis. Diagnostic procedures, preventative measures, and current therapeutic regimens will also be explored. This course is intended for nursing students at C.S.U.B.

Type of Class/Course: Degree Credit

Text: Van Meter, K. C., et al. Pathophysiology for the Health Professions. 5th ed., Elsevier Saunders, 2014.

Course Objectives:

By the end of the course, a successful student will be able to:

1. Define what disease is, and identify common causes of morbidity and mortality in patients,
2. Define terminology associated with the study of pathophysiology,
3. Identify common disorders of selected body systems in terms of pathogenesis, etiology, clinical manifestations, significant diagnostic tests, common treatment modalities, and potential complications,
4. Analyze and interpret typical signs and symptoms of selected disorders,
5. Discuss the influence of age, heredity, environment, stress, and immune response in disease processes,
6. Apply knowledge of responses of the human body to illness and injury toward more effective patient care, and
7. Define the basic approach to treatment of various disorders based on current medical science and clinical practice.

Course Scope and Content:

- Unit I Introduction to Pathophysiology
  - A. Understanding health and disease
  - B. Cellular changes
  
- Unit II Fluid, Electrolyte, and Acid-Base Imbalances
  - A. Types of imbalances
  - B. Treatment of Imbalances
  
- Unit III Pain
  - A. Characteristics of pain
  - B. Classification of pain
  - C. Pain control
  
- Unit IV Inflammation and Healing
  - A. Body defenses
  - B. Inflammation
  - C. Healing
  
- Unit V Infection
  - A. Principles of infection
  - B. Physiology of infection
  
- Unit VI Immunity
  - A. Immune system function
  - B. Transplant rejection
  - C. Hypersensitivity reactions
  - D. Autoimmune disorders
  - E. Immunodeficiency
  
- Unit VII Skin Disorders
  - A. Inflammatory disorders
  - B. Skin infections
  - C. Skin tumors
  
- Unit VIII Musculoskeletal System Disorders
  - A. Trauma
  - B. Bone disorders
  - C. Disorders of muscle, tendons, and ligaments
  - D. Joint disorders
  
- Unit IX Blood, Circulatory, and Lymphatic System Disorders
  - A. Blood dyscrasias
  - B. Neoplastic blood disorders
  - C. Lymphatic disorders
  
- Unit X Cardiovascular System Disorders

- A. Heart disorders
  - B. Vascular disorders
- Unit XI      Respiratory System Disorders
- A. Respiratory disease
  - B. Lung diseases
  - C. Expansion disorders
- Unit XII      Nervous System Disorders
- A. Neurologic dysfunction
  - B. Congenital neurologic disorders
  - C. Degenerative disorders
  - D. Mental disorders
  - E. Spinal cord disorder
- Unit XIII      Endocrine System Disorders
- A. Diabetes
  - B. Thyroid disorders
  - C. Pituitary hormone
  - D. Adrenal glands
- Unit XIV      Digestive System Disorders
- A. Common digestive system disorders
  - B. Diagnostic tests
  - C. Upper GI tract disorders
  - D. Disorders of liver and pancreas
  - E. Lower GI tract disorders
- Unit XV      Urinary System Disorders
- A. Incontinence and retention
  - B. Urinary tract infections
  - C. Renal failure
- Unit XVI      Reproductive System Disorders
- A. Disorders of the male reproductive system
  - B. Disorders of the female reproductive system
  - C. Infertility
  - D. Sexually transmitted diseases
- Unit XVII      Neoplasms and Cancer
- A. Benign tumors
  - B. Malignant tumors
- Unit XVIII      Stress and Associated Problems
- A. Stress response
  - B. Coping with stress
- Unit XIX      Congenital and Genetic Disorders
- A. Congenital Anomalies

- B. Genetic Disorders
- C. Developmental Disorders

Unit XX      Complications Due to Pregnancy

- A. Physiological changes during pregnancy
- B. Potential complications of pregnancy

Unit XXI      Complications Due to Adolescence

- A. Obesity and metabolic syndrome
- B. Musculoskeletal abnormalities
- C. Eating disorders
- D. Skin disorders
- E. Disorders affecting sexual development

Unit XXII     Complications Due to Aging

- A. The aging process
- B. Physiological changes with aging

Unit XXIII    Immobility and Associated Problems

- A. Factors involving immobility
- B. Systemic effects of immobility
- C. Effects of immobility on children

Unit XXIV     Substance Abuse and Associated Problems

- A. Predisposing factors
- B. Potential complications of substance abuse
- C. Treatment for substance abuse

#### Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 6 hours per week outside of the regular class time doing the following:

1. Studying course lectures notes, handouts, and textbook reading,
2. Answering questions on study assignments,
3. Completing required reading as assigned, and
4. Completing written work as assigned.

#### Methods of Instruction:

1. Lectures,
2. Student presentations,
3. Pre and Post Class discussions, and
4. Multimedia presentations.

#### Methods of Evaluation:

1. Proctored, closed book/closed note examinations,
2. Study assignments,



3. Quizzes, and
4. Research paper

Supplemental Data:

TOP Code:	040300: Microbiology
SAM Priority Code:	E: Non-Occupational
Distance Education:	Not Applicable
Funding Agency:	Y: Not Applicable(funds not used)
Program Status:	1: Program Applicable
Noncredit Category:	Y: Not Applicable, Credit Course
Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Course is not a basic skills course
Prior to College Level:	Y: Not applicable
Cooperative Work Experience:	N: Is not part of a cooperative work experience education program
Eligible for Credit by Exam:	E: Credit By Exam
Eligible for Pass/No Pass:	C: Pass/No Pass
Taft College General Education:	