

Course Outline  
**Pathophysiology for Careers in Health Care**

**Course Description:**

AH 243 Pathophysiology for Careers in Health Care. 3 hours credit. Prerequisite: BI 240. This course will enable the student to develop an understanding of the concepts of pathophysiology including cellular changes, inflammation and healing, immune responses, pain and genetics. The student will apply these underlying concepts to explore the pathophysiology, etiology, clinical manifestations and treatments of common disorders in major body systems.

**Course Relevance:**

The concepts learned in this course will allow the student to understand the relationship between pathophysiology, clinical manifestations, diagnostic tests and medical treatment in altered health states. This information can be used by the student in his/her health care related practice.

**Required Textbook:**

Gould, B. (2002). *Pathophysiology for the Health Related Professions* (2<sup>nd</sup> Ed). Philadelphia: W.B. Saunders.

**Learning Outcomes:**

The intention is for the student to be able to:

1. Apply the concepts of cellular changes, inflammation and healing, immune responses, pain and genetics to common disorders in major body systems
2. Discuss the pathophysiology, etiology, clinical manifestations and treatments of common disorders in the major body systems
3. Apply pathophysiology content to his/her health related practice

**Learning PACT Statement:** Butler prepares students to be principled, productive individuals who are responsible, involved lifelong learners. To accomplish this goal Butler has established a Learning PACT for the skills that learners need during their career and has integrated PACT skill-building activities and assessments through a variety of program coursework, extra curricular activities, and other learning opportunities.

The BCCC Learning PACT consists of:

- P** = Personal Development Skills
- A** = Analytical Thinking Skills
- C** = Communication Skills
- T** = Technological Skills

The Learning PACT Skills are vital for any adult to function successfully in the ever changing world of the 21<sup>st</sup> century. Butler expects learners to be full partners in the learning process and as such to assume primary responsibility for their own choices.

**Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course:**

Through the student involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

Primary skills developed and documented:

1. Problem solving
  - Through the analysis of case studies, the student will develop problem solving skills.
2. Writing
  - Through various forms of written work, the student will develop written skills and apply standards of punctuation, grammar and spelling.

Secondary skills (developed but not documented):

Critical thinking  
Health management  
Computer literacy  
Internet use

**Assessment Tasks:**

These learning outcomes and primary Learning PACT skills will be demonstrated by:

1. A written analysis of a progressive case study involving a common disorder of a major body system. The student's paper should communicate his/her ability to explain the etiology and pathophysiology of the specific disorder as well as identifying the clinical manifestations presented in the progressive case study.

**Course Content:**

- I. Themes - Key recurring concepts that run throughout this course:
  - A. Etiology of disease
  - B. Pathophysiology
  - C. Clinical manifestations
  - D. Diagnostic testing
  - E. Medical treatments
- II. Issues - Key issues that will be addressed in this course: areas of conflict that must be understood in order to achieve the intended outcome:
  - A. Legal / ethical considerations
  - B. Religious and spiritual influences on health
  - C. Alternative therapies
- III. Concepts – Key concepts that must be understood to address the issues:
  - A. Inflammation / healing
  - B. Immunity
  - C. Infection

- D. Genetics
  - E. Neoplasms
  - F. Growth and development
  - G. Pain
  - H. Fluid and electrolytes
- IV. Skills / Competencies - Actions that are essential to achieve the course outcomes:
- A. Assess
  - B. Solve problems / make decisions
  - C. Communicate
  - D. Collaborate

**Learning Units:**

- I. Inflammatory Response and healing
- A. Vascular response to injury
  - B. Cellular and chemical response to injury
  - C. Principles of healing
  - D. Acute and chronic inflammation
- II. Immune System
- A. Normal immune response
  - B. Four types of hypersensitivity
  - C. Causes, types and effects of immunodeficiency
  - D. Autoimmunity
- III. Neoplasms
- A. Benign and malignant neoplasms
  - B. Characteristics of normal and malignant cells
  - C. Effects of cancer on the body
  - D. Role of chemotherapy, radiation therapy, nutrition and other drugs in the treatment of cancer
  - E. Incidence and risk factors of cancers
- IV. Fluid, electrolyte and acid base imbalances
- A. Fluid compartment relationships
  - B. Fluid volume excess and fluid volume deficit
  - C. Sodium, potassium and calcium imbalances
  - D. Acid – base imbalances
- V. Inherited disease
- A. Patterns of recessive and dominant mendelian inheritance
  - B. Congenital defects and genetic disorders
  - C. Single gene inheritance, chromosomal disorders and multifactorial inheritance
- VI. Pain
- A. List the causes of pain
  - B. Describe the pain pathways and theories of pain

- C. Identify the characteristics of pain
  - D. Discuss treatments recommended for pain management
- VII. Blood and lymphatic system disorders
- A. Pathophysiology of common blood and lymphatic system disorders
  - B. Etiology of common blood and lymphatic system disorders
  - C. Clinical manifestations of common blood and lymphatic system disorders
  - D. Diagnostic and laboratory procedures
  - E. Current treatments and therapies
- VIII. Cardiovascular disorders
- A. Pathophysiology of common cardiovascular disorders
  - B. Etiology of common cardiovascular disorders
  - C. Clinical manifestations of common cardiovascular disorders
  - D. Diagnostic and laboratory procedures
  - E. Current treatments and therapies
- IX. Respiratory disorders
- A. Pathophysiology of common respiratory disorders
  - B. Etiology of common respiratory disorders
  - C. Clinical manifestations of common respiratory disorders
  - D. Diagnostic and laboratory procedures
  - E. Current treatments and therapies
- X. Digestive disorders
- A. Pathophysiology of common digestive disorders
  - B. Etiology of common digestive disorders
  - C. Clinical manifestations of common digestive disorders
  - D. Diagnostic and laboratory procedures
  - E. Current treatments and therapies
- XI. Urinary disorders
- A. Pathophysiology of common urinary disorders
  - B. Etiology of common urinary disorders
  - C. Clinical manifestations of common urinary disorders
  - D. Diagnostic and laboratory procedures
  - E. Current treatments and therapies
- XII. Neurologic disorders
- A. Pathophysiology of common neurologic disorders
  - B. Etiology of common neurologic disorders
  - C. Clinical manifestations of common neurologic disorders
  - D. Diagnostic and laboratory procedures
  - E. Current treatments and therapies
- XIII. Endocrine disorders

- A. Pathophysiology of common endocrine disorders
- B. Etiology of common endocrine disorders
- C. Clinical manifestations of common endocrine disorders
- D. Diagnostic and laboratory procedures
- E. Current treatments and therapies

XIV. Musculoskeletal disorders

- A. Pathophysiology of common musculoskeletal disorders
- B. Etiology of common musculoskeletal disorders
- C. Clinical manifestations of common musculoskeletal disorders
- D. Diagnostic and laboratory procedures
- E. Current treatments and therapies

XV. Skin disorders

- A. Pathophysiology of common skin disorders
- B. Etiology of common skin disorders
- C. Clinical manifestations of common skin disorders
- D. Diagnostic and laboratory procedures
- E. Current treatments and therapies

**Learning Activities:**

Classroom:

Learning activities will include lecture, class discussion, group activities, reading assignments and classroom activities.

Online:

Learning activities will include narrated PowerPoint presentations, class discussion, reading assignments and Internet activities.

**Methods of Evaluation:**

Methods of evaluation include in class participation, assignments, quizzes, and final exam. Grade determination will be based upon class participation, assignments, quizzes and the final exam.