



Course Number and Title: BIO 130 Disease Process/Pathophysiology

Campus Location:

Georgetown, Dover, Stanton, Wilmington

Effective Date:

2018-51

Prerequisite:

BIO 120, SSC 100 or concurrent

Co-Requisites:

None

Course Credits and Hours:

3.00 credits

3.00 lecture hours/week

0.00 lab hours/week

Course Description:

This course examines the physiologic and biologic manifestations of disease and the adaptations that the body makes to the changes produced by the disease process.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Hybrid Course

Online Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Describe cellular adaptations to altered conditions in the body. (CCC 5, 6)
2. Describe the relationship of the immune system regarding different disease processes. (CCC 6)
3. Discuss the potential for alterations of health across the lifespan. (CCC 5, 7)
4. Explain the etiology, pathophysiology, and clinical manifestations of burns of the integumentary system. (CCC 5, 6)
5. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the musculoskeletal system. (CCC 5, 6)
6. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the lymphatic system, blood, and vasculature. (CCC 5, 6)
7. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the cardiovascular system. (CCC 5, 6)
8. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the respiratory system. (CCC 5, 6)
9. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the nervous system. (CCC 5, 6)
10. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the endocrine system. (CCC 5, 6)
11. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the digestive system. (CCC 5, 6)
12. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the urinary system. (CCC 5, 6)
13. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the reproductive system. (CCC 5, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Describe cellular adaptations to altered conditions in the body.
 1. Describe the structure and function of cells and tissues.
 2. Explain basic genetic terminology and chromosomal disorders.
 3. Describe cellular adaptations that result from environmental stresses.
 4. Identify major types of cellular necrosis.
 5. Identify mechanisms that cause fluid volume excess and deficits.
2. Describe the relationship of the immune system regarding different disease processes.
 1. Explain innate immunity mechanisms.
 2. Discuss inflammatory responses.
 3. Explain the features of adaptive immunity.
 4. Discuss examples of stress-related diseases and coping with stress.
 5. Describe mechanisms of autoimmune disorders.
3. Discuss the potential for alterations of health across the lifespan.
 1. Describe the effect of the environment, maternal illness, behaviors, and nutritional deficiencies on pregnancy.
 2. Discuss how body systems are affected by aging.
4. Explain the etiology, pathophysiology, and clinical manifestations of burns of the integumentary system.
 1. Describe the depth and extent of burn injuries.
 2. Explain the physiological response(s) to and complications of burn injuries.
 3. Describe the mechanisms of burn healing.
5. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the musculoskeletal system.
 1. Explain causes, manifestations, and healing of various fractures.
 2. Explain common metabolic disorders of the skeletal system.
 3. Compare and contrast rheumatoid arthritis and osteoarthritis.
 4. Discuss tumors in the musculoskeletal system.
6. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the lymphatic system, blood, and vasculature.
 1. Describe various blood dyscrasias.
 2. Explain various blood clotting disorders.
 3. Discuss polycythemia.
 4. Discuss neoplastic blood disorders.
7. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the cardiovascular system.
 1. Relate the electrophysiology of the heart to the principles of electrocardiography.
 2. Compare and contrast arterial and venous disorders.
 3. Describe structural abnormalities of the heart.
 4. Discuss inflammatory and infectious processes in the heart.
 5. Explain congestive heart failure.
 6. Describe shock and its effects on organs and systems.
8. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the respiratory system.
 1. Identify factors that affect ventilation, perfusion, and respiration.
 2. Compare and contrast common pulmonary disorders and diseases.
 3. Differentiate between respiratory distress and respiratory failure.
 4. Discuss the effect of trauma on the respiratory system.
 5. Discuss cancers of the respiratory system.
9. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the nervous system.
 1. Discuss alterations of the nervous system that affect neural function.
 2. Identify common acute and chronic neurological disorders and their effect on the nervous system.
 3. Describe various central nervous system traumatic injuries.
 4. Discuss the effect of tumors on the central nervous system.
10. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the endocrine system.
 1. Identify mechanisms that cause alterations in hormone secretion.
 2. Describe common disorders of the endocrine system.
11. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the digestive system.
 1. Describe normal and abnormal function of the digestive system and accessory organs.
 2. Explain common inflammatory and neoplastic disorders of the digestive system.
 3. Describe common manifestations of digestive system and accessory organ disorders.
12. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the urinary system.
 1. Describe normal and abnormal structure and function of the urinary system.

2. Explain common inflammatory and neoplastic disorders of the urinary system.
 3. Compare and contrast acute kidney injury and chronic kidney disease.
 4. Discuss common obstructions of the urinary system.
13. Explain the etiology, risk factors, pathophysiology, clinical manifestations, and diagnostics of disease processes that lead to common disorders of the reproductive system.
1. Describe normal and abnormal structure and function of the reproductive system.
 2. Explain common inflammatory, infectious, and neoplastic disorder of the female and male reproductive system.

Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

None

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.