Course Description
PTH 115 Pathology for PTA
Lec. 3 Lab. 0 Cr. 3

Course Focus
This course is an introductory study of the basic pathophysiology of the body with emphasis on the body’s reaction to disease and injury. Concepts related to pathological conditions, risk factors, incidence, etiological factors, pathogenesis, clinical manifestations and prognosis of various medical conditions are presented. The impact of these conditions on physical therapy intervention as direct by a licensed physical therapist is presented.

Text and References


UNIT 1: Introduction to Pathology
1. Define key terms related to pathology.
2. Differentiate acute, subacute, and chronic illness.
3. List the leading causes of death in the United States.

UNIT 2: Immunity
1. Recall the general structures and function of the immune system.
2. Define key terms related to the immune system.
3. Compare innate and acquired immunity.
4. Compare active and passive immunity.
5. Summarize the immune response.
6. Identify factors that impact immunity.
7. Differentiate the following types of immune disorders: immunodeficiency, hypersensitivity, autoimmune.
8. State the etiology, mode of transmission, and risk factors for HIV infection.
9. Relate the stages of HIV infection to exercise.
10. Compare Type I and Type IV hypersensitivity disorders.
11. Explain the physiology of anaphylactic shock.
12. State the definition, incidence, risk factors, clinical manifestations, general treatment measures, and prognosis for the following autoimmune disorders: systemic lupus erythematosus, fibromyalgia, rheumatoid arthritis.

13. Identify physical therapy interventions appropriate for the treatment of systemic lupus erythematosus, fibromyalgia, rheumatoid arthritis.

14. Identify common diagnostic procedures used to determine immune system disorders.

15. Describe the adverse effects of corticosteroid and anti-inflammatory drugs.

Unit 3: Infectious Diseases
1. Define key terms related to infectious diseases.
2. Identify factors of aging that impact susceptibility to infection.
3. Identify 4 basic types of infectious agents.
4. Summarize the Chain of Transmission.
5. Describe the following modes of transmission: airborne, contact, droplet, vector-borne.
6. Give an example of a disease transmitted by each of the following modes: airborne, contact, droplet, vector-borne.
7. Recall strategies to prevent transmission of nosocomial infections.*
8. Examine PTA strategies to prevent infections associated with tubes and lines.*
9. State the etiology, mode of transmission, risk factors, clinical manifestations, and prevention measures for the following bacterial infections: Clostridium difficile (C diff), Staphylococcus aureus, hepatitis.
10. Compare Hepatitis A, B, and C in terms of transmission, incidence, risk factors, and prognosis.
11. Examine the use of antibiotics and antibiotic resistance.

UNIT 4: Mental Health
1. Define key terms related to mental illness.
2. Describe the clinical manifestations of:
   - Mood Disorders
   - Anxiety Disorders
   - Personality Disorders
   - Somatoform Disorders
3. Give 2 examples of:
   - Mood Disorders
   - Anxiety Disorders
   - Personality Disorders
   - Somatoform Disorders
4. Differentiate hypochondriasis and conversion disorders.
5. Differentiate malingering from mental illness.
6. Explain Wadell’s signs to assess malingering.
7. Determine strategies to employ when interacting with patients with different forms of mental illness.

UNIT 5: Oncology
1. Define key terms related to oncology.
2. Compare benign and malignant tumors.
3. Recognize the grading and staging of cancers.
4. Identify modifiable and non-modifiable risk factors for cancer.
5. Summarize the general pathogenesis of cancer.
6. Summarize the mechanisms of metastasis.
7. Identify the major treatment modalities for cancer.
9. Compare the pathogenesis, clinical manifestations, and prognosis of osteoblastoma and osteosarcoma.
10. Describe the pathogenesis, clinical manifestations, and prognosis of metastatic bone tumors.
11. Recognize warning signs of cancer.

UNIT 6: Integumentary Disorders & Burns
1. Recall the general structure and functions of the skin.
2. Define key terms related to integumentary disorders and burns.
3. Relate skin color to malfunction.
4. Explain the impact of aging on the integument.
5. State the definition, etiology, clinical manifestations, and the implications for physical therapy intervention in the following conditions:
   - contact dermatitis
   - herpes zoster
   - cellulitis
   - psoriasis
   - scleroderma
   - myositis
6. Compare the following types of skin cancers in terms of the cell involved, incidence, appearance, and prognosis:
   - basal cell carcinoma
   - squamous cell carcinoma
   - malignant melanoma
   - Kaposi’s sarcoma
7. Differentiate superficial, superficial partial-thickness, deep partial-thickness, full-thickness, and subdermal burns.
8. Apply the Rule of Nines to estimate the extent of a burned area.
9. Describe emergency treatment measures for classifications of burns.*
11. Describe the 3 phases of dermal healing.
12. Apply principles of positioning, ROM, and resistive exercise to the physical therapy management of burns.*
13. Identify physical therapy interventions for the management of hypertrophic scars.
14. Identify topical medications used to treat burns.
15. Recognize different types of grafts utilized in the management of burns.
16. Recognize precautions to take when changing a burn dressing.

UNIT 7: Disorders of the Digestive System
1. State the function of each of the organs of the digestive system.
2. Locate each of the organs of the digestive system.
3. Define key terms related to the digestive system.
4. State the etiology, risk factors, incidence, clinical manifestations, and physical therapy implications of the following conditions:
   - Cirrhosis
   - Viral Hepatitis
   - Pancreatitis
   - Intestinal Obstruction
   - Cholelithiasis
   - Hiatal hernia/GERD
   - Malabsorption syndrome
5. Explain the development of ascites.
6. Explain the development of portal hypertension.
7. Explain the development of jaundice secondary to hemolytic anemia, hepatitis, and gallstones.

UNIT 8: Disorders of the Urinary System
1. Recall the general function of the organs of the urinary system.
2. Define key terms related to pathology of the urinary system.
3. Interpret basic urinalysis values.
4. State the etiology, risk factors, incidence, clinical manifestations, and physical therapy implications of urinary tract infections and chronic kidney diseases.
5. List at least one complication of chronic kidney disease for each of the following systems: nervous, digestive, cardiovascular, skeletal.

6. Examine physical therapy implications for patients on a hemodialysis regime.

7. Describe different types of urinary incontinence.

8. State the etiology, risk factors, clinical manifestations, and treatment modalities for each of the 4 types of urinary incontinence.


10. Describe the impact of aging on urinary continence.

UNIT 9: Endocrine and Metabolic Conditions

1. Recall the general function of the organs of the endocrine system.

2. Define key terms related to pathology of the endocrine system.

3. Summarize the neuroendocrine response to stress.

4. State the etiology, clinical manifestations, and physical therapy implications of acromegaly and gigantism.

5. State the etiology, clinical manifestations, and clinical implications of diabetes insipidus.

6. State the etiology, clinical manifestations, and physical therapy implications of hyperthyroidism (Graves’ disease) and hypothyroidism.

7. Describe a goiter.

8. Summarize the pathogenesis and clinical manifestations of Addison’s disease and Cushing’s syndrome.

9. Relate the definitions of weight status to body mass index (BMI).

10. Identify of risk factors and life situations that contribute to obesity.

11. Identify complications of obesity.

12. State the variables that constitute metabolic syndrome.

13. Identify elements of a holistic approach to treating obesity.

14. Examine barriers to optimal care when treating a patient who is obese.

15. Compare Type 1 and Type 2 diabetes mellitus.

16. List risk factors for Type 2 diabetes.

17. List complications of diabetes.

18. Explain the clinical manifestations of diabetes.


20. Summarize the treatment modalities for diabetes.

21. Compare the causes, clinical manifestations, and treatment of hyperglycemia and hypoglycemia.

22. State normal values for serum glucose levels.

23. Explain the development of hypoglycemia, hyperglycemia and ketoacidosis.

24. List warning signs of hypoglycemia, hyperglycemia, and ketoacidosis.*

25. Examine the impact of diabetes on physical therapy interventions.

26. Examine the impact of diabetes on exercise and physical activity.*

27. Examine the need for foot care in the diabetic patient.

28. State the significance of fluid, electrolyte, and acid-base balance in homeostasis.

UNIT 10: Conditions of the Pulmonary System

1. Recall the general function of the organs of the respiratory system.

2. Define key terms related to pathology of the respiratory system.

3. Summarize the general signs and symptoms of pulmonary disease.

4. Recognize normal arterial blood gas values.

5. Interpret abnormal arterial blood gas values.
6. State the etiology, risk factors, clinical manifestations, and physical therapy implications of pneumonia and tuberculosis.

7. Summarize the definition, risk factors, etiological factors, pathogenesis, clinical manifestations, and prognosis for emphysema, asthma, chronic bronchitis.

8. Examine physical therapy interventions for patients having lung diseases.

9. Compare restrictive lung disease to COPD.

10. Describe respiratory acidosis and respiratory alkalosis.

11. Describe the general pathogenesis and clinical manifestations of cystic fibrosis.

12. State the definition and clinical manifestations of pulmonary edema, pulmonary embolism, pneumothorax, pleural effusion, cor pulmonale, atelectasis, and flail chest.

UNIT 11: Hematologic Disorders
1. Recall the function of each of the different components of blood.

2. Define key terms relevant to blood pathologies.

3. Recognize basic lab values for blood disorders.

4. State the definition and prognosis for:
   - Hodgkin’s Lymphoma
   - acute leukemia,
   - non-Hodgkin’s Lymphoma
   - chronic leukemia
   - multiple myeloma

5. State the etiology, general pathogenesis, risk factors, clinical manifestations, and physical therapy implications of different types of anemia.

6. State the etiology, general pathogenesis, risk factors, clinical manifestations, and physical therapy implications of hemophilia.

UNIT 12: Cardiovascular Conditions
1. Recall the general function of the organs of the cardiovascular system.

2. Define key terms related to pathology of the cardiovascular system.

3. Recognize conditions that lead to each category of shock.

4. Describe the impact of aging on the cardiovascular system.

5. Describe gender related differences in the presentation of cardiac disease.

6. Identify modifiable and non-modifiable risk factors for heart disease.

7. Describe common procedures used to diagnose and treat cardiovascular disease.

8. State the definition, pathogenesis, clinical manifestations, and impact on physical therapy interventions of:
   - ischemic heart disease
   - angina pectoris
   - myocardial infarction
   - hypertension
   - congestive heart failure

9. Distinguish right-sided heart failure from left-sided heart failure.

10. State the indications for the following medications: anticoagulants, nitroglycerin, beta blockers, ACE inhibitors.

11. Summarize the 4 phases of cardiac rehabilitation.


14. Differentiate medications used to treat cardiovascular diseases.

15. Describe the etiological factors, common sites, and surgical treatment of aneurysms.

16. State the definition, risk factors, pathogenesis, clinical manifestations, and implications for physical therapy of thrombophlebitis, peripheral arterial disease (PAD), and chronic venous insufficiency.

17. Differentiate arterial versus venous ulcers.
18. Differentiate treatment of arterial versus venous ulcers.*
19. Describe atrial fibrillation, ventricular fibrillation, heart block.

Course Schedule
M/W: Room 128, 1:00-3:00

Course Evaluation
Exam #1 100 points
Exam #2 100 points
Exam #3 100 points
Cumulative Final Exam 300 points
Article Review 100 points
Case studies 4@ 75 ea. 300 points
Total 1000 points

GRADING POLICY

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<th>Grading scale</th>
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<th>WP</th>
<th>WF</th>
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<tr>
<td>90% - 100% A</td>
<td>withdraw</td>
<td>withdraw with passing grade</td>
<td>withdraw with failing grade</td>
<td>Incomplete</td>
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<tr>
<td>82% - 89% B</td>
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Grading Methodology. The final grade must be 75.00% or more in order to pass the course and progress in the program. In addition, each student must pass the final exam with a grade of 75.00% or above. If a student fails the final exam a second attempt will be given. The highest score a student can achieve on the second attempt is 75% and the final grade will be a C. Students absent from an examination or presentation will receive a “0” grade for the examination unless other arrangements are made with the individual instructor prior to the examination or presentation day or on the examination or presentation day before the test/presentation is scheduled to be given. It is the responsibility of the student to contact the appropriate instructor to arrange to make up the examination. Arrangements may be completed by telephone. If the instructor is not available, a message should be left on the instructor’s voice mail AND with another member of the faculty or administrative assistant. The instructor will decide the time and method of make-up examinations on an individual basis. Messages sent by other students are unacceptable. The student is responsible for notifying the instructor of the reason for the absence. Grades are posted on Blackboard within one week of administration of tests and examinations.

ADA Statement
The Technical College of the Lowcountry provides access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability

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accommodation, contact the counselor for students with disabilities at (843) 525-8228 during the first ten business days of the academic term.

**Attendance**

1. The College’s statement of policy indicates that students must attend ninety percent of total class hours or they will be in violation of the attendance policy.
2. Students not physically attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.
3. Students taking an online/internet class must sign in and communicate with the instructor within the first ten calendar days from the start of the semester to indicate attendance in the class. Students not attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.
4. Reinstatement requires the signature of the division dean.
   a. In the event it becomes necessary for a student to withdraw from the course OR if a student stops attending class, it is the student’s responsibility to initiate and complete the necessary paperwork. Withdrawing from class may have consequences associated with financial aid and time to completion.
   b. When a student exceeds the allowed absences, the student is in violation of the attendance policy. The instructor MUST withdrawal the student with a grade of “W”, “WP”, or “WF” depending on the date the student exceeded the allowed absences and the student’s progress up to the last date of attendance
   or
   c. under extenuating circumstances and at the discretion of the faculty member teaching the class, allow the student to continue in the class and make-up the work. This exception must be documented at the time the allowed absences are exceeded.
   d. Absences are counted from the first day of class. There are no "excused" absences. All absences are counted, regardless of the reason for the absence.
5. A student must take the final exam or be excused from the final exam in order to earn a non-withdrawal grade.
6. Students are expected to be in class on time. Arrival to class after the scheduled start time or leaving class prior to dismissal counts as a tardy. Three tardies and/or early departures are considered as one absence unless stated otherwise. Students are expected to be in class on time. If a student is going to be absent or tardy they are expected to notify the class instructor by telephone or email prior to start time. Failure to do so is considered a no call/no show and will result in a learning contract.
7. It is the student’s responsibility to sign the roll/verify attendance with instructor upon entering the classroom. Failure to sign the roll/verify attendance results in a recorded absence. In the event of tardiness, it is the student’s responsibility to insure that attendance is marked. The student is responsible for all material/announcements presented, whether present or absent.
8. Continuity of classroom and laboratory (which includes clinical experiences) is essential to the student’s progress in providing safe and competent patient care. Students are expected to use appropriate judgment for participating in clinical activities. To evaluate the student’s knowledge and skills, it is necessary for the student to be present for all clinical experiences. If absence does occur, the designated clinical site, in addition to the Division of Health Sciences Administrative Assistant, must be notified by telephone no later than 30 minutes prior to the start of the clinical experience. The Division of Health Sciences telephone number is 843-525-8267.
9. A copy of TCL’s STATEMENT OF POLICY NUMBER: 3-1-307 CLASS ATTENDANCE (WITHDRAWAL) is on file in the Division Office and in the Learning Resources Center.

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Hazardous Weather
In case weather conditions are so severe that operation of the College may clearly pose a hardship on students and staff traveling to the College, notification of closing will be made through the following radio and television stations: WYKZ 98.7, WGCO 98.3, WGZO 103.1, WFXH 106.1, WWVV 106.9, WLOW 107.9, WGZR 104.9, WFXH 1130 AM, WLTH 101.1, WSOK 1230 AM, WAEV 97.3, WTOC TV, WTGS TV, WJWJ TV, and WSAV TV. Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System. [www.tcl.edu/textalert.asp](http://www.tcl.edu/textalert.asp)

Academic Misconduct
There is no tolerance at TCL for academic dishonesty and misconduct. The College expects all students to conduct themselves with dignity and to maintain high standards of responsible citizenship.

It is the student’s responsibility to address any questions regarding what might constitute academic misconduct to the course instructor for further clarification.

The College adheres to the Student Code for the South Carolina Technical College System. Copies of the Student Code and Grievance Procedure are provided in the TCL Student Handbook, the Division Office, and the Learning Resources Center.

Health care professionals hold the public trust. Academic misconduct by health science students calls that trust into question and academic integrity is expected.

It is a fundamental requirement that any work presented by students will be their own. Examples of academic misconduct include (but are not limited to):

1. copying the work of another student or allowing another student to copy working papers, printed output, electronic files, quizzes, tests, or assignments.
2. completing the work of another student or allowing another student to complete or contribute to working papers, printed output, electronic files, quizzes, tests, or assignments.
3. viewing another student’s computer screen during a quiz or examination.
4. talking or communicating with another student during a test.
5. violating procedures prescribed by the instructor to protect the integrity of a quiz, test, or assignment.
6. plagiarism in any form, including, but not limited to: copying/pasting from a website, textbook, previously submitted student work, or any instructor-prepared class material; obvious violation of any copyright-protected materials.
7. knowingly aiding a person involved in academic misconduct.
8. providing false information to staff and/or faculty.
9. entering an office unaccompanied by faculty or staff.
10. misuse of electronic devices.

Course Coordinator: Jennifer Culbreth  
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Office Hours: By Appointment