



Course Number and Title: PTA 205 Pathology/Treatment of Orthopedic Conditions

Campus Location:

Georgetown, Wilmington

Effective Date:

2020-51

Prerequisite:

BIO 123, PTA 101, PTA 102, PTA 115, PTA 116 and
(PTA 206 or concurrent)

Co-Requisites:

none

Course Credits and Hours:

4.00 credits

3.00 lecture hours/week

3.00 lab hours/week

Course Description:

This course focuses on orthopedic conditions and their underlying pathology. Emphasis is placed on physical therapy rehabilitation of these conditions.

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

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Use professional behaviors in the classroom. (CCC 3, 4; PGC 6)
2. Develop effective physical therapy interventions for the spine and jaw. (CCC 2, 3; PGC 2, 3, 5)
3. Develop effective physical therapy interventions for the lower extremity. (CCC 2, 3; PGC 2, 3, 5)
4. Develop effective physical therapy interventions for upper extremity conditions. (CCC 2, 3; PGC 2, 3, 5)
5. Demonstrate appropriate interventions for athletic injuries. (CCC 2, 3; PGC 2, 3, 5)
6. Examine the application of joint mobilization as a therapeutic intervention. (CCC 2; PGC 3)
7. Develop effective physical therapy interventions for patients with amputations. (CCC 2, 3; PGC 2, 3, 5)
8. Apply appropriate physical therapy treatment interventions for patients with prosthetics. (CCC 2, 3; PGC 2, 3, 5)
9. Apply appropriate physical therapy treatment interventions for patients with orthotics. (CCC 2, 3; PGC 2, 3, 5)
10. Plan and assess physical therapy interventions for the management of patients with orthopedic disorders. (CCC 2, 3; PGC 2, 3, 5)

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. Use professional behaviors in the classroom.
 1. Demonstrate professional behavior patterns consistent with developing-level generic abilities. These include but are not limited to continued commitment to learning by making effective use of time and resources in the classroom, adhering to designated class and lab times, following dress code, following lab and safety rules, completing assignments on time, and displaying appropriate interpersonal dynamics and communication skills.
 2. Use professional literature for continued development of knowledge and skills in the management of orthopedic conditions.
 3. Communicate verbally and non-verbally with the patient, patient caregivers, and the physical therapist (PT) during lab and competency/practical in an effective, appropriate, and capable manner.
 4. Demonstrate competence in educating other healthcare students in skills and the role of the physical therapist assistants in healthcare.
 5. Implement the Guide for Conduct of the Physical Therapist Assistant (APTA) and Standards of Ethical Conduct (APTA) to meet the

expectations of all stakeholders that include patients and other health care professionals.

2. Develop effective physical therapy interventions for the spine and jaw.
 1. Compare and contrast normal movement patterns of cervical and lumbar spine.
 2. Define scoliosis as either structural or non-structural, noting cause of abnormality and plan an appropriate treatment.
 3. Identify primary and secondary curves, compare and contrast kyphosis versus lordosis as a pathological entity.
 4. Discuss acute and chronic mechanical sprains and strains of the low back in terms of signs and symptoms, and perform treatments under the physical therapist plan of care.
 5. Diagram anatomy of the intervertebral disk and identify changes with age and pathology at the disk level.
 6. Differentiate among degrees of disk herniation.
 7. Define spondylolisthesis as either stable or unstable, and describe an evidence-based treatment rationale.
 8. Discuss various pathologies and propose treatment interventions following spine compression fractures using functional training interventions.
 9. Describe how postural abnormalities impact health and integrity of the spine.
 10. Identify post-surgical spine surgery treatment and precautions.
 11. Discuss spine stenosis as a cause of back pain, and formulate a treatment approach.
 12. Instruct an individual in exercise treatment appropriate for spinal and jaw conditions using functional training and therapeutic exercise within the plan of care established by the PT.
 13. Develop an effective treatment program for a spinal condition using functional training, physical and mechanical agents, and therapeutic exercise within the plan of care established by the PT.
 14. Assess patient's response to spine procedures and adjust interventions within the PT's plan of care, and report this to the supervising physical therapist.
 15. Determine patient's status using special tests and/or standardized questionnaires.
 16. Identify normal and pathological mechanics of temporomandibular joints (TMJ), and propose an appropriate treatment.
3. Develop effective physical therapy interventions for the lower extremity.
 1. Identify the etiology, pathology, clinical picture, and treatment including progression of functional training, noting precautions or contraindications of the following proximal lower extremity conditions (including but not limited to):
 1. Total hip replacement (THR)
 2. Avascular necrosis
 3. Hip fracture (Fx) and repair
 4. Developmental hip dysplasia
 5. Leg-Calve-Perthes disease
 6. Slipped capital femoral epiphysis
 7. Arthritis-osteoarthritis/rheumatoid arthritis
 8. Bursitis of the hip
 9. Iliotibial band syndrome
 2. Identify the etiology, pathology, clinical picture and treatment, including progression of functional training, noting precautions or contraindications of the following lower extremity conditions (including but not limited to):
 1. Total knee replacement (TKR)
 2. Meniscal lesions – post surgical meniscal repair
 3. Ligamentous injury of the knee
 4. Osteochondritis dessecans
 5. Plica
 6. Post-surgical intervention for ligament repair
 7. Osgood Schlatter
 8. Dislocation of patella
 9. Bursitis
 10. Shin splints
 11. Patellofemoral syndrome/chondromalacia
 12. Post-surgical lateral release
 13. Compartment syndrome
 14. Achilles tendonitis, rupture and post-surgical repair
 15. Plantar fasciitis
 16. Heel spur
 17. Quadriceps contusion
 3. Describe ligamentous injury of the foot and appropriate treatment interventions.
 4. Identify common deformities of the foot including pes planus, metatarsalgia, Morton's neuroma, hallux valgus, hammer toe, club foot, and metatarsal adductus.
 5. Correctly instruct an individual in an exercise program for specified conditions of the lower extremity within the plan of care established by the PT, and report information to the supervising physical therapist.
 6. Use and adjust treatment intervention for a patient with a lower extremity orthopedic condition according to the patient's plan of care.
 7. Assess a patient's response to lower extremity interventions, and adjust the intervention within the physical therapist's plan of care.
4. Develop effective physical therapy interventions for upper extremity conditions.
 1. Identify shoulder pathology, etiology, clinical picture, and treatment including progression of functional training, noting precautions or contraindications of the following proximal upper extremity conditions (including but not limited to):
 1. Total shoulder replacement (TSR)

2. Rotator cuff tendonitis
 3. Bursitis - subacromial
 4. Bicipital tendonitis
 5. Adhesive capsulitis
 6. Rotator cuff tears and post-surgical repair
 7. Complex regional pain syndrome
 8. Acromioclavicular sprain
 9. Dislocation and instability of shoulder
 10. Labral tear
 11. Thoracic outlet syndrome
2. Identify the etiology, pathology, clinical picture and treatment, including progression of functional training, noting precautions or contraindications of the following distal upper extremity conditions (including but not limited to):
 1. Elbow bursitis
 2. Lateral and medial epicondylitis
 3. Myositis ossificans
 4. Carpal tunnel syndrome
 5. Mallet finger
 6. De Quervain's syndrome
 7. Trigger finger
 8. Ganglion
 9. Flexor tendon injury/repair
 10. Contractures of the hand
 11. Colles fracture
 12. Osteonecrosis of carpals
 3. Instruct an individual in an exercise program for conditions of the upper extremity within the plan of care established by the PT, and report this information to the supervising physical therapist.
 4. Assess a patient's response to upper extremity interventions, and adjust the intervention within the physical therapist's plan of care.
5. Demonstrate appropriate interventions for athletic injuries.
 1. Describe common athletic injuries, and demonstrate appropriate interventions for sports related injuries.
 2. Identify basic level taping techniques, and discuss the application of taping in the treatment of athletic injuries.
 6. Examine the application of joint mobilization as a therapeutic intervention.
 1. Define *joint mobilization*.
 2. Identify joint characteristics that indicate use of mobilization.
 3. Give examples of physiologic and accessory movements of joints.
 4. Give examples of component movements and joint play.
 5. Compare and contrast loose versus closed pack position.
 6. Describe joint motion (i.e., slide, glide, and roll).
 7. Explain convex and concave rule of joint movement.
 8. Explain rules of joint mobilization.
 9. Identify precautions and contraindications to joint mobilization.
 10. Explain grades of joint movement and mobilization.
 7. Develop effective physical therapy interventions for patients with amputations.
 1. Identify the two major categories of amputations.
 2. List causes of acquired amputations.
 3. Identify and describe by anatomical level the different levels of amputations.
 4. Recall common terms used to describe amputated limbs.
 5. List components of the physical therapy evaluation of the amputee.
 6. Explain the goals of a preoperative and postoperative exercise program for an amputee written by a physical therapist.
 7. Perform a preoperative and postoperative exercise program for an amputee patient.
 8. Identify typical contractures developed by amputees, and explain methods of prevention.
 9. Explain the goals for residual limb shaping.
 10. Measure residual limb length and circumference.
 11. List residual limb shaping techniques.
 12. Discuss the use of residual limb wrapping, residual limb shrinkers, and semirigid and rigid dressings, and list their advantages and disadvantages.
 13. Perform and instruct patient and/or caregivers in proper residual limb care and wrapping techniques.
 14. Demonstrate competence in residual limb wrapping.
 8. Apply appropriate physical therapy treatment interventions for patients with prosthetics.
 1. List goals of prosthetic prescription.
 2. Identify common prosthetic devices.
 3. Explain common prosthetic components, and list indications and contraindications.
 4. Identify pressure tolerant and sensitive areas of the residual limb.
 5. Identify components of prosthetic checkout.
 6. Instruct an individual and/or a family member in proper prosthetic use.
 7. Describe common gait deviations, and list prosthetic and amputee causes.
 8. Describe and instruct in the proper care and maintenance of a prosthetic device.

9. Apply appropriate physical therapy treatment interventions for patients with orthotics.
 1. Define *orthosis*, and identify goals of orthotic prescriptions.
 2. Identify common orthotic devices.
 3. Explain the function of common orthotic devices.
 4. Identify components of orthotic checkout.
 5. Explain the goals of orthotic training.
 6. Instruct an individual and/or family member in proper orthotic use.
 7. Describe and instruct in the proper care and maintenance of an orthotic device.
10. Plan and assess physical therapy interventions for the management of patients with orthopedic disorders.
 1. Combine previous didactic and practical work from the physical therapist assistant (PTA) program curricula (including but not limited to therapeutic exercise, manual therapy, physical and mechanical agents, transfers, wound management, body mechanics, and documentation) to obtain proposed goals for patients with orthopedic disorders.
 2. Assess a patient's response to treatment, identify appropriate treatment modifications within the plan of care, and report information to the supervising physical therapist.
 3. Recognize and report when treatment interventions should not be performed or may need clarification by supervising physical therapist.
 4. Use data collection throughout the continuum care to provide rationale for physical therapy management of patients with orthopedic conditions. This data collection can include, but is not limited to: manual muscle testing (MMT), muscle tone, goniometry, pain scales, skin inspection, sensation, standardized questionnaires, functional status throughout activities of daily living, functional range of motion (ROM), joint end feels, posture, gait, balance, wheelchair propulsion, patients' ability to use & care for devices/equipment, length, girth, endurance and vital signs in patient problems.
 5. Recognize cultural differences while providing physical therapy interventions to patient and patient's families with orthopedic disorders.
 6. Describe appropriate actions to be used in an emergency situation during treatment of orthopedic conditions.
 7. Complete thorough, accurate, logical, concise, timely, and legible documentation using the subjective, objective, assessment, plan (SOAP) note format for patients with orthopedic disorders.
 8. Educate other healthcare students on basic gait training and transfer skills, as well as the role of physical therapist assistants under the direction and supervision of a physical therapist in healthcare.
 9. Interpret current information provided by patients with orthopedic disorders, their caregivers and family regarding level of function and general health status.

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.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Didactic Exams (Summative)	
Owens: 3 Modular Exams equally weighted and Final Exam	45%
Wilmington: 4 Modular Exams equally weighted and Final Exam	
Quizzes/Lab Checks (Formative)	5%
Psychomotor Assessment (Summative)	35%
3 Competencies equally weighted and a Final Practical	
Generic Abilities Tool for Professional Behaviors (Summative)	5%
Journal Review (Summative)	5%
Presentations (Summative)	5%
TOTAL	100%

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):

1. Work under the supervision of a physical therapist in an ethical, legal, safe and effective manner.
2. Implement PT interventions within the plan of care.
3. Perform specific data collection techniques related to the plan of care.
4. Demonstrate effective communication in the physical therapy environment.
5. Formulate appropriate judgments and modification to the program within the patient's plan of care.
6. Demonstrate effective interactions and professional behaviors.
7. Participate in career development activities.
8. Exhibit a commitment to the physical therapy profession, physical therapy patients, and the community.

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.