



### **Course Description**

#### **PHT2224 | Disabilities and Therapeutic Procedures 2 | 3.00 credits**

This course introduces foundational concepts and principles pertaining to therapeutic exercise prescription and interventions for the upper and lower extremity, spine, and Women's Health across the lifespan and continuum of care. Applied science of exercise and techniques, exercise interventions by body region, peripheral joint mobilization, and medical and surgical procedures and protocols are emphasized. Students engage in active and collaborative learning and utilize case scenarios for practical application. Prerequisites: BSC 2086, BSC 2086L, PHT1102C, PHT1201, PHT1201L, PHT1211, PHT1211L; Corequisites: PHT2120, PHT2120L, PHT2224L, PHT2801C.

### **Course Competencies:**

**Competency 1:** The student will comprehend the Principles of Therapeutic Exercises by:

1. Review the primary classifications and principles of therapeutic exercise.
2. Review the various contraction types: Isometric, Isokinetic, Isotonic, concentric, and eccentric (indications, contraindications, and precautions).
3. Reviewing three types of isotonic exercises.
4. Reviewing the different types of exercises: PROM, AAROM, AROM, ARROM, and
5. endurance exercises, identify their benefits and limitations.
6. Reviewing stretching techniques, indications, contraindications, and goals.
7. Defining and discussing the concept of mobility and joint ranges.
8. Discuss the clinical significance of relaxation and the principles and techniques used to promote relaxation.
9. Detailing specific exercise protocols: McKenzie's Extension, William's Flexion, and Codman's.
10. Identifying Orthopedic considerations in exercise concerning stages of recovery.

**Competency 2:** The student will understand Musculoskeletal Disorders by:

1. Reviewing the different types of fractures: open or compound, closed or simple, pathologic, transverse, spiral, comminuted
2. Describing the specific types of fractures common in children.
3. Describing the process of bone repair.
4. Discussing delayed union, malunion, and nonunion.
5. Defining the following surgical procedures: tenotomy, capsulotomy, tendon lengthening, tendon transplantation, osteotomy, arthrodesis, arthroplasty, total bone replacement, and bone grafting.
6. Identifying the three different stages of tissue trauma.
7. Defining the types of microtrauma and microtrauma that can cause injury to the musculoskeletal system: sprain, strain, dislocation, and fractures.
8. Defining signs and symptoms related to musculoskeletal trauma.
9. Describing the cycle involved in tissue regeneration and repair.
10. Recognizing treatment differences between acute and chronic patients.
11. Defining the components of an orthopedic physical therapy evaluation, such as MMT and ROM.
12. Defining the cause-and-effect theory when treating orthopedic patients.
13. Emphasizing body mechanics and energy conservation techniques.
14. Defining common terminology related to orthopedic physical therapy.
15. Listing and defining different diagnostic tools used in diagnosing orthopedic dysfunction.
16. Discussing preoperative management of the orthopedic patients.
17. Identifying major treatment approaches to orthopedic dysfunction: Cyriax, Kaltenborn, Maitland.
18. Discuss the potential psychological aspects involved in orthopedic disabilities.

**Competency 3:** The student will understand Arthritis by:

1. Defining Rheumatoid arthritis and osteoarthritis and differentiating between them in terms of etiology and clinical manifestations.
2. Listing the criteria for a diagnosis of Rheumatoid arthritis.
3. Describe the pathology and stages of rheumatoid arthritis and osteoarthritis.
4. Discussing the medical management of Rheumatoid arthritis includes the different joint deformities: Swan neck and Boutonniere deformities.
5. Discussing Physical Therapy evaluation and treatment of the acute vs. subacute and chronic stages of Rheumatoid arthritis and osteoarthritis.
6. Describing the psycho-social factors associated with arthritis.

**Competency 4:** The student will demonstrate an understanding of Disorders and Treatment of the Spine by:

1. Giving a brief overview of the anatomy of the spine.
2. Defining and discussing common injuries and special tests for the cervical and thoracic spine; minor neck injuries (whiplash), Pinch nerve syndrome, torticollis, facet joint dysfunction, and Scheuermann's disease.
3. Discuss medical-surgical and physical therapy management of patients with pathologies and injuries of the cervical and thorax spine.
4. Defining and discussing common injuries and special tests related to the lumbar spine: muscle strains and contusions, myositis, discogenic back pain, HNP with or without nerve root involvement, cauda equina syndrome, piriformis syndrome, vertebral fractures, spondylolysis, spondylolisthesis, ankylosis spondylitis, laminectomy, discectomy, osteoporosis/compression fractures, spinal stenosis, SI dysfunction.
5. Describing the most common medical and surgical approaches to treating patients with the most common diagnoses listed above.
6. Identifying the indications, precautions, and examples of procedures to specific treatment approaches to spinal disorders, including McKenzie extension and William's Flexion exercises.
7. Describing the different pain management approaches in the acute and chronic stages.

**Competency 5:** The student will demonstrate an understanding of Disorders and Treatment of Lower Extremity by:

1. Identify the following surgical procedures: O.R.I.F. and T.H.R., and list the hip nails and prosthesis. Describing the medical-surgical and physical therapy management of patients with hip disabilities listed above.
2. Describe an exercise program/protocol for a hip pinning or hip replacement patient.
3. Defining and discussing common injuries and special tests related to the knee: MCL and LCL injuries, meniscal tears, unhappy triad, Osgood-Sclatter's disease, chondromalacia of the patella, DJD, T.K.R.
4. Discuss medical-surgical and physical therapy management of patients with knee Pathology and disabilities.
5. Discuss common injuries and special tests related to the ankle, ruptured Achilles tendon, sprains and strains, and arthrodesis at the ankle joint.
6. Discuss common injuries and tests related to the foot: chronic foot strain, metatarsalgia, Morton's neuroma, plantar fasciitis, claw toes, pronator foot.
7. Discussing medical-surgical and physical therapy management of patients with ankle or foot pathologies and disabilities.

**Competency 6:** The student will demonstrate an understanding of Disorders and Treatment of the Upper Extremity by:

1. Reviewing the anatomy of the upper extremity.
2. Defining and discussing the following common traumas and disorders of the shoulder girdle: acromion clavicular joint sprain, anterior dislocation of the glenoid humeral joint, recurrent anterior dislocation of the shoulder, posterior dislocation of the glenoid humeral joint, impingement syndrome, tear of the rotator cuff, T.O.S., R.S.D., tendonitis, bursitis, total shoulder replacement, frozen shoulder.
3. Identifying items relevant to shoulder pathology likely to be included in P.T. shoulder evaluation.
4. Given shoulder pathology and treatment goals, identify appropriate treatment activities.

5. Identifying equipment frequently used in shoulder rehabilitation, including pulleys, shoulder wheels, finger ladders, and isokinetic equipment.
6. Stating the indication and procedure for Codman's pendulum exercise.
7. Defining and discussing common injuries related to the elbow joint: Tennis elbow, golfer's elbow, dislocation of the elbow, olecranon bursitis, nerve injuries around the elbow joint, fracture of the head of the radius, myositis ossificans.
8. Defining and discussing common injuries and special tests related to the wrist and hand: Colle's fracture, fractured navicular, injury to the distal radial, ulnar joint, carpal tunnel syndrome, Dupuytren's contracture, and tendon repairs of the hand.
9. Outlining and discussing rehabilitation of pathologies of the elbow and wrist.

**Competency 7:** The student will understand the Psycho-Social Aspects of Illness by:

1. Developing an awareness of the psycho-social aspects of disabilities.
2. Developing awareness of patient anxiety, stresses, frustrations, and their possible effect on illness and hospitalization.
3. Developing an understanding of the use of defenses in adjustment and non-adjustment as part of the human adaptation process: denial, repression, projection, rationalization, identification, reaction formation, substitution, and sublimation.
4. Differentiating between the different types of communication.
5. Develop an appreciation for cultural diversity and understand the influence of such factors on communication with the patient and the patient's families.
6. Listing and defining the essential element of effective communication.
7. Understanding the five stages of psychological adjustment to loss and disability and realizing their influence on rehabilitation.
8. Understanding the importance of social interaction on the patient's physical and mental rehabilitation.

**Learning Outcomes:**

1. Communication
2. Critical Thinking
3. Social Responsibility
4. Computer / Technology Usage
5. Ethical Issues