

- Gravity-assisted compression devices:
 - ❖ Standing frame*
 - ❖ Tilt table*
- Mechanical motion devices*:
 - ❖ Continuous passive motion (CPM)*
- Traction devices*:
 - ❖ Intermittent
 - ❖ Positional
 - ❖ Sustained
- Documentation of all listed competencies in SOAP notes format.

NINTH SEMESTER

1. **CARDIOPULMONARY PHYSICAL THERAPY**
2. **EMERGENCY PROCEDURES & PRIMARY CARE IN PHYSICAL THERAPY**
3. **CLINICAL DECISION MAKING & DIFFERENTIAL DIAGNOSIS**
4. **SCIENTIFIC INQUIRY & RESEARCH & METHODOLOGY**
5. **PROFESSIONAL PRACTICE**
6. **(LAWS, ETHICS & ADMINISTRATION)**
7. **INTEGUMENTRY PHYSICAL THERAPY**
8. **SUPERVISED CLINICAL PRACTICE - V**

CARDIOPULMONARY PHYSICAL THERAPY CREDIT HOURS 3 (2-1)

COURSE DESCRIPTION:

This course includes a study of anatomy and physiology of the cardiovascular, pulmonary, and lymphatic systems and pathological changes of the systems and function, including diagnostic tests and measurements. This course discuss relevant testes and measures for determining impairment and differentiating the diagnosis based on the specificity and sensitivity of the assessment instruments as related to patients with cardiovascular, pulmonary, and lymphatic systems disorders. The use of evidence-based physical therapy intervention for cardiovascular, pulmonary, and lymphatic systems disorders is emphasized Topics will focus on medical terminology, clinical examination, evaluation, comparing contemporary, traditional interventions and the impact of evolving technology in this area.

COURSE OUTLINE:

MEDICAL TERMINOLOGY REGARDING CARDIOPULMONARY SYSTEM

INTRODUCTION

ANATOMY AND PHYSIOLOGY

- Anatomy of the Cardiovascular and Respiratory Systems

- Physiology of the Cardiovascular and Respiratory Systems.

PATHO-PHYSIOLOGY

- Ischemic Cardiac Condition
- Cardiac Muscle Dysfunction
- Restrictive Lung Dysfunction
- Chronic Obstructive Pulmonary Diseases
- Cardiopulmonary Implications of Specific Diseases.

DIAGNOSTIC TESTS AND PROCEDURES

- Cardiovascular Diagnostic Tests and procedures
- Electro cardio-graphy
- Pulmonary Diagnostic Tests and Procedures.

SURGICAL INTERVENTIONS, MONITORING AND SUPPORT

- Cardiovascular and Thoracic interventions
- Thoracic Organ Transplantation; Heart, Lung, and heart-Lung
- Monitoring and Life-Support Equipment.

PHARMACOLOGY

- Cardiovascular Medications
- Pulmonary Medications.

CARDIOPULMONARY ASSESSMENT AND INTERVENTION

- Assessment Procedures
- Treatment of Acute Cardiopulmonary Conditions
- Therapeutic Interventions in Cardiac Rehabilitation and Prevention
- Pulmonary Rehabilitation
- Outcome Measures.

THE NEEDS OF SPECIFIC PATIENTS

INTENSIVE CARE FOR THE CRITICALLY ILL ADULT

- Assessment of the critically ill patient in the intensive care unit (ICU)
- Mechanical ventilation - implications for physiotherapy
- Musculoskeletal problems
- Patient groups with specific needs
- Systemic inflammatory response syndrome (SIRS) and sepsis
- Acute respiratory distress syndrome (ARDS)
- Disseminated intravascular coagulation (DIC)
- Inhalation burns
- Trauma
- Neurological conditions requiring intensive care
- Physiotherapy techniques
- Emergency situations.

PULMONARY REHABILITATION

- Definition and aims of pulmonary rehabilitation
- Benefits of pulmonary rehabilitation
- Setting up pulmonary rehabilitation
- Resources
- Selection of patients
- Patient assessment for pulmonary rehabilitation
- Structure of pulmonary rehabilitation
- Pulmonary rehabilitation team
- Exercise component
- Outcome measures.

CARDIAC REHABILITATION

- Introduction
- Goals of cardiac rehabilitation
- Cardiac rehabilitation team
- Role of the physiotherapist
- Rationale for cardiac rehabilitation
 - Early ambulation
 - Exercise training
 - Secondary prevention
 - Education
- Manifestations of ischaemic heart disease
 - Cardiac arrest
 - Angina pectoris
 - Myocardial infarction
- Cardiac surgery
- Drugs to control the cardiovascular system
- Physiotherapy
 - Assessment
 - Recording
 - Treatment
 - Outcome evaluation
 - Complications of exercise
- Other considerations
 - The older patient
 - Cardiac failure
 - Valvular heart disease
 - Congenital heart disease
 - Compliance
 - Cost-effectiveness
 - Legal aspects.

CARDIOPULMONARY TRANSPLANTATION

- Introduction
- Assessment

- The transplantation process
- Donors
- Operative procedures
- Postoperative care
- Rejection of the transplanted organs
- Immunosuppression
- Infections
- Special considerations for the physiotherapist
- Denervation of the heart/lungs
- Immunosuppression
- Infection/rejection
- Physiotherapy management.

HYPERVENTILATION

- Introduction
- Signs and symptoms
- Causes of hyperventilation
- Personality
- Diagnostic tests
- Breathing patterns
- Treatment
- The assessment
- Treatment plan
- Breathing education
- Breathing pattern re-education
- Compensatory procedures in the short term
- Planned rebreathing
- Speech
- Home programme
- Exercise and fitness programmes
- Group therapy.

BRONCHIECTASIS, PRIMARY CILIARY DYSKINESIA AND CYSTIC FIBROSIS

- Bronchiectasis
 - Medical management
 - Physiotherapy
 - Evaluation of physiotherapy
- Primary ciliary dyskinesia
 - Medical management
 - Physiotherapy
 - Evaluation of physiotherapy
- Cystic fibrosis
 - Medical management
 - Physiotherapy

- Evaluation of physiotherapy
- Continuity of care.

CASE HISTORIES

- Principles of assessment and outcome measures
- Documentation in SOAP notes format
- Evidence based cardiopulmonary Physical Therapy Treatment protocols.

RECOMMENDED TEXT BOOKS:

1. Essentials of Cardiopulmonary Physical Therapy (2nd Edition) By Hillegass and Sadowsky.
2. *Physiotherapy for respiratory and cardiac problems*, By: Jennifer A. Pryor & Barbara A. Webber, 2nd edition, Churchill Livingstone.
3. *Tidy's Physiotherapy* by Thomas A Skinner & Piercy.
4. *Therapeutics Exercises and Technique* by Carolyn Kisner & Laynn Allen Colby 4th 5th edition.
5. *Cash's Text book of General Medical & Surgical Condition for Physiotherapists* by Patrica A. Downie.
6. *Cash's Textbook of chest , heart and vascular condition for physiotherapist* by Patrica A. Downie.

EMERGENCY PROCEDURES & PRIMARY CARE IN PHYSICAL THERAPY CREDIT HOURS 2 (2-0)

COURSE DESCRIPTION:

This course provides the student with all of the skills necessary to take appropriate action in an emergency in any practice setting. Basic life support, advanced cardiac life support, and first aid and emergency preparedness are the content areas of this course. The course is designed to provide knowledge and skill in emergency techniques and in the application of appropriate action necessary to take care of the patient/client.

COURSE OUT LINE:

ORGANIZATION AND ADMINISTRATION OF EMERGENCY CARE

- Develop and implement emergency action plan
- Emergency team
- Initial patient assessment and care
- Emergency communication
- Emergency equipment and supplies
- Venue location
- Emergency transportation
- Emergency care facilities

- Legal need and documentation.

PHYSICAL EXAMINATION OF THE CRITICALLY INJURED PATIENT/ATHLETE

- Scene assessment and safety
- Body substance isolation precautions
- Primary survey
- Secondary survey
- Vital signs.

AIRWAY MANAGEMENT

- Air way anatomy
- Air way compromise
- Oxygen therapy
- Advanced airway devices.

SUDDEN CARDIAC DEATH

- Incidence and etiology of sudden death in general population
- Sudden cardiac arrest in athletes
- Screening and recognition of cardiac warning signs
- Preparation for cardiac emergencies
- Management of sudden cardiac arrest.

HEAD INJURIES

- Pathomechanics of brain injuries
- Types of pathology
- Classification of cerebral concussion
- Cerebral contusion
- Cerebral hematoma
- Second impact syndrome
- Initial on site assessment
- Sideline assessment
- Special tests for assessment of coordination
- Special tests for assessment of cognition
- Other tests
- Medications
- Wake ups and rest.

EMERGENCY CARE OF CERVICAL SPINE INJURIES

- Anatomy
- Mechanism of injuries
- Injuries to the spinal cord
- Assessment
- Management.

EMERGENT GENERAL MEDICAL CONDITIONS

- Sudden death
- Exercise induced anaphylaxis
- Acute asthma
- Diabetes mellitus
- Mononucleosis
- Sick cell traits
- Hypertension.

ENVIRONMENT-RELATED CONDITIONS

- Heat related emergencies and their prevention
- Cold related injuries
- Lightning
- Altitude related emergencies.

ORTHOPEDIC INJURIES

- Basic emergency medical care
- Fundamentals of skeletal fractures
- Splinting techniques
- Fractures and dislocations of upper extremity
- Fractures and dislocations of lower extremity
- Fractures and dislocations of spine.

ABDOMINAL INJURIES

- Initial evaluation
- Specific injuries: abdominal wall contusions, splenic injuries, liver injuries, renal injuries, intestinal injuries, pancreatic injuries
- Non-traumatic abdominal injuries: Appendicitis, ectopic pregnancy.

THORACIC INJURIES

- Assessment
- Management of different Types of injuries: fractures, Pneumothorax, hemothorax, pulmonary embolism.

SPINE BOARDING IN CHALLENGING ENVIRONMENTS

- The soft foam pit in gymnastics
- The pole vault pit
- The swimming pole and diving well
- The ice hockey rink.

THE PSYCHOLOGICAL AND EMOTIONAL IMPACT OF EMERGENCY SITUATIONS

- Defining psychological trauma
- Psychological interventions in crisis situations
- Psychological trauma in athletic environment

- The psychological emergency response team
- Internal team members
- External team members
- The psychological interventions recommendations.

PRIMARY CARE: FOUNDATION

- Primary care: physical therapy modes1
- Evidence - Based examination of diagnostic information
- Cultural competence: An essential of primary health care
- Pharmacologic considerations for the physical therapist
- The patient interview: the science behind the art.

EXAMINATION/EVALUATION

- Prologue
- Symptoms investigation, Part I: Chief complaint by body region
- Symptoms investigation, Part II: Chief complaint by symptom
- Patient health history including identifying health risk factor
- Review of systems
- Patient interview: the physical examination begins
- Review of cardiovascular and pulmonary systems and vital signs
- Upper quadrant screening examination
- Lower quadrant screening examination\ Diagnostic imaging
- Laboratory tests and values.

DISORDERS AND MANAGEMENT

- Acute Care Physical Therapy Examination and Discharge Planning.
- Clinical Laboratory Values and Diagnostic Testing.
- Physiologic Monitors and Patient Support Equipment.
- Bed Rest, Deconditioning, and Hospital-Acquired Neuromuscular Disorders.
- The Immune System and Infectious Diseases and Disorders.
- Cardiovascular Diseases and Disorders.
- Pulmonary Diseases and Disorders.
- Musculoskeletal/Orthopedic Diseases and Disorders
- Neurologic and Neurosurgical Diseases and Disorders.
- Endocrine Diseases and Disorders.
- Gastrointestinal Diseases and Disorders.
- Genitourinary Diseases and Disorders.
- Oncological Diseases and Disorders.
- Transplantation.
- Integumentary Diseases and Disorders
- Wound Management.

SPECIAL POPULATIONS

- The Pediatric and adolescent population
- The obstetric client
- The geriatric population
- Health and wellness perspective in primary care.

RECOMMENDED TEXT BOOKS:

1. *Emergency Care in Athletic Training* by: Keith M.Gorse, Robert O. Blanc, Francis Feld, Matthew Radelet, 1st edition, 2010, F.A Davis Company.
2. *Acute care hand book for Physical Therapists* by: Jaime C paz, Michelle P West, 2nd edition, 2002, Butterworth Heinemann.

CLINICAL DECISION MAKING & DIFFERENTIAL DIAGNOSIS **CREDIT HOURS 3(3-0)**

COURSE DESCRIPTION:

The course will cover the principles and methods of clinical screening in physical therapy practice. A basic format for musculoskeletal, neuromuscular, Integumentary, and cardiopulmonary screening in physical therapy will be presented, with a focus on differential diagnosis within the scope of physical therapy practice, and incorporation of the role of the physical therapist as it interfaces with the role of the physician. A clarification of red-flags that differentiate a systemic condition from a neuro-musculoskeletal condition will be a continuing theme throughout the course. Decision-making skills related to physical therapy will be emphasized through the use of patient case scenarios with a focus on when to treat, and when to refer. Strategies to effectively and appropriately communicate with health care colleagues and patients regarding medical diagnostic information and medical status will be introduced.

COURSE OUTLINE:

SCREENING AND INTERVIEWING, THE PT SCOPE OF PRACTICE: TO REFER OR TREAT?

INTRODUCTION TO SCREENING FOR REFERRAL IN PHYSICAL THERAPY

- Reasons to Screen
- Screenings and Surveillance
- Diagnosis by the Physical Therapist
- Differential Diagnosis Versus Screening
- Direct Access
- Decision-Making Process
- Case Examples and Case Studies.

INTRODUCTION TO THE INTERVIEWING PROCESS

- Concepts in Communication
- Cultural Competence
- The Screening Interview
- Subjective Examination
- Core Interview
- Hospital Inpatient Information
- Physician Referral.

OVERVIEW OF THE PHYSIOLOGY OF PAIN AND SYSTEMIC CAUSES OF PAIN

- Mechanisms of Referred Visceral Pain
- Multisegmental Innervations
- Assessment of Pain and Symptoms
- Sources of Pain
- Types of Pain
- Comparison of Systemic Versus Musculoskeletal Pain
- Patterns
- Characteristics of Viscerogenic Pain,
- Screening for Emotional and Psychologic Overlay
- Screening for Systemic Versus Psychogenic
- Symptoms
- Physician Referral.

PHYSICAL ASSESSMENT AS A SCREENING TOOL

- General Survey
- Techniques of Physical Examination
- Integumentary Screening Examination
- Nail Bed Assessment
- Lymph Node Palpation
- Musculoskeletal Screening Examination
- Neurologic Screening Examination
- Regional Screening Examination
- Systems Review
- Physician Referral.

SCREENING FOR HEMATOLOGIC DISEASE

- Signs and Symptoms of Hematologic Disorders
- Classification of Blood Disorders
- Physician Referral.

SCREENING FOR CARDIOVASCULAR DISEASE

- Signs and Symptoms of Cardiovascular Disease
- Cardiac Pathophysiology
- Cardiovascular Disorders

- Laboratory Values.

SCREENING FOR THE EFFECTS OF CARDIOVASCULAR MEDICATIONS

- Physician Referral.

SCREENING FOR PULMONARY DISEASE

- Signs and Symptoms of Pulmonary Disorders
- Inflammatory/Infectious Disease
- Genetic Disease of the Lung
- Occupational Lung Diseases
- Pleuropulmonary Disorders
- Physician Referral.

SCREENING FOR GASTROINTESTINAL DISEASE

- Signs and Symptoms of Gastrointestinal Disorders
- Gastrointestinal Disorders
- Physician Referral.

SCREENING FOR HEPATIC AND BILIARY DISEASE

- Hepatic and Biliary Signs and Symptoms
- Hepatic and Biliary Pathophysiology
- Gallbladder and Duct Diseases
- Physician Referral.

SCREENING FOR UROGENITAL DISEASE

- Signs and Symptoms of Renal and Urological Disorders,
- The Urinary Tract
- Renal and Urological Pain
- Renal and Urinary Tract Problems
- Physician Referral.

SCREENING FOR ENDOCRINE AND METABOLIC DISEASE

- Associated Neuromuscular and Musculoskeletal Signs and Symptoms
- Endocrine Pathophysiology
- Introduction to Metabolism
- Physician Referral.

SCREENING FOR IMMUNOLOGIC DISEASE

- Using the Screening Model
- Immune System Pathophysiology
- Physician Referral
- Screening for Cancer
- Cancer Statistics
- Risk Factor Assessment
- Cancer Prevention

- Major Types of Cancer
- Metastases
- Clinical Manifestations of Malignancy
- Oncologic Pain
- Side Effects of Cancer Treatment
- Cancers of the Musculoskeletal System
- Primary Central Nervous System Tumors
- Cancers of the Blood and Lymph System
- Physician Referral.

SCREENING THE HEAD, NECK, AND BACK

- Using the Screening Model to Evaluate the Head, Neck, or Back,
- Location of Pain and Symptoms
- Sources of Pain and Symptoms
- Screening for Oncologic Causes of Back Pain
- Screening for Cardiac Causes of Neck and Back Pain
- Screening for Peripheral Vascular Causes of Back Pain
- Screening for Pulmonary Causes of Neck and Back Pain
- Screening for Renal and Urologic Causes of Back Pain,
- Screening for Gastrointestinal Causes of Back Pain
- Screening for Liver and Biliary Causes of Back Pain
- Screening for Gynecologic Causes of Back Pain
- Screening for Male Reproductive Causes of Back Pain
- Screening for Infectious Causes of Back Pain
- Physician Referral.

SCREENING THE SACRUM, SACROILIAC, AND PELVIS

- The Sacrum and Sacroiliac Joint
- The Coccyx
- The Pelvis
- Physician Referral.

SCREENING THE LOWER QUADRANT: BUTTOCK, HIP, GROIN, THIGH, AND LEG

- Using the Screening Model to Evaluate the Lower Quadrant
- Trauma as a Cause of Hip, Groin, or Lower Quadrant Pain
- Screening for Systemic Causes of Sciatica
- Screening for Oncologic Causes of Lower Quadrant Pain
- Screening for Urologic Causes of Buttock, Hip, Groin, or Thigh Pain
- Screening for Male Reproductive Causes of Groin Pain
- Screening for Infectious and Inflammatory Causes of Lower Quadrant Pain
- Screening for Gastrointestinal Causes of Lower Quadrant Pain
- Screening for Vascular Causes of Lower Quadrant Pain
- Screening for Other Causes of Lower Quadrant Pain
- Physician Referral.

SCREENING THE CHEST, BREASTS, AND RIBS

- Using the Screening Model to Evaluate the Chest, Breasts, or Ribs
- Screening for Oncologic Causes of Chest or Rib Pain
- Screening for Cardiovascular Causes of Chest, Breast, or Rib Pain
- Screening for Pleuropulmonary Causes of Chest, Breast, or Rib Pain
- Screening for Gastrointestinal Causes of Chest, Breast, or Rib Pain
- Screening for Breast Conditions that Cause Chest or Breast Pain
- Screening for Other Conditions as a Cause of Chest, Breast, or Rib Pain
- Screening for Musculoskeletal Causes of Chest, Breast, or Rib Pain
- Screening for Neuromuscular or Neurologic Causes of Chest, Breast, or Rib Pain
- Physician Referral.

SCREENING THE SHOULDER AND UPPER EXTREMITY

- Using the Screening Model to Evaluate Shoulder and Upper Extremity
- Screening for Pulmonary Causes of Shoulder Pain
- Screening for Cardiac Causes of Shoulder Pain
- Screening for Gastrointestinal Causes of Shoulder Pain
- Screening for Liver and Biliary Causes of Shoulder Pain
- Screening for Rheumatic Causes of Shoulder Pain
- Screening for Infectious Causes of Shoulder Pain
- Screening for Oncologic Causes of Shoulder Pain
- Screening for Gynecologic Causes of Shoulder Pain
- Physician Referral.

RECOMMENDED TEXT BOOKS:

1. Goodman CC, Snyder TEK. *Differential Diagnostics for Physical Therapists: Screening for Referral*. Saint Louis, MO: Saunders: Elsevier; 2006. ISBN: 978-0-7216-0619-4.
2. APTA. *Guide to Physical Therapy Practice: Revised second edition*. Alexandria, VA: American Physical Therapy Association; 2003. ISBN: 978-1-887759-85.
3. Additional readings as assigned by the instructors.

SCIENTIFIC INQUIRY & RESEARCH METHODOLOGY **CREDIT HOURS 3 (2-1)**

COURSE DESCRIPTION:

This course includes discussion on basic quantitative methods and designs, including concepts of reliability and validity, interpretation of inferential statistics related to research designs, co relational statistic & designs, interclass correlation coefficients, and critical appraisal of the literature.

COURSE OUTLINE:

RESEARCH FUNDAMENTALS

- Rehabilitation Research
- Theory in Rehabilitation Research
- Research Ethics.

RESEARCH DESIGN

- Research Problems, Questions, and Hypotheses
- Research Paradigms
- Design Overview
- Research Validity.

EXPERIMENTAL DESIGNS

- Group Designs
- Single-System Design.

NON EXPERIMENTAL RESEARCH

- Overview of Non experimental Research
- Clinical Case Reports
- Qualitative Research
- Epidemiology
- Outcomes Research
- Survey Research.

MEASUREMENT

- Measurement Theory
- Methodological Research.

DATA ANALYSIS

- Statistical Reasoning
- Statistical Analysis of Differences; The basics
- Statistical Analysis of Differences; Advanced and special Techniques
- Statistical Analysis of Relationships; The basics
- Statistical Analysis of Relationships; Advanced and special Techniques.

BEING A CONSUMER

- Locating the Literature
- Evaluating Evidence One Article at a time
- Synthesizing Bodies of Evidence.

IMPLEMENTING RESEARCH

- Implementing a Research Project
- Publishing and Presenting Research.

PRACTICAL:

- Literature review
- Preparation, presentation and defence of research proposal
- Poster presentation

RECOMMENDED TEXT BOOKS:

1. *Essentials of clinical research* By Stephan P. Glasser.
2. *Rehabilitation Research (Principles and Applications)* 3rd Edition By Elizabeth Domholdt.

PROFESSIONAL PRACTICE IN PHYSICAL THERAPY (Law , Ethics & Administration) CREDIT HOURS 2 (2-0)

COURSE DESCRIPTION:

The course will discuss the role, responsibility, ethics administration issues and accountability of the physical therapists. The course will also cover the change in the profession to the doctoral level and responsibilities of the professional to the profession, the public and to the health care team. The topic of health care system in Pakistan with comparison with current health system abroad will be discussed too.

COURSE OUTLINE:

THE PHYSICAL THERAPIST AS PROFESSIONAL

- What does professional mean?
- Preliminary definitions of profession and professional
- Sociological perspective
- Structural approach
- Processual approach
- Characteristics of professions cited in the literature
- Power approach
- Dimensions of occupation & profession
- Autonomy, self-regulation of ethical standards, and accountability
- Privileges of autonomous practice in 2020
- Self-regulation of ethical standards
- Accountability of professionals
- Individual professionalism—professionalism without professions?
- The history of a profession
- Professional recognition.

CONTEMPORARY PRACTICE ISSUES

- A vision for the future
- The doctorate in physical therapy

- Perspective of the profession
- Perspective of the practitioner
- Direct access issue
- Selected curriculum requirements from evaluative criteria for physical therapist
- Plan of care
- Social responsibility
- Career development
- Physical therapy practice patterns
- Components of a practice pattern
- Important factors that affect health.

THE FIVE ROLES OF THE PHYSICAL THERAPIST

THE PHYSICAL THERAPIST AS PATIENT/CLIENT MANAGER

- evaluation and diagnosis
- Diagnosis as clinical decision making
- Prognosis
- Discharge planning and discontinuance of care
- Discontinuance of care
- Outcomes
- Clinical decision making
- Referral relationships
- Interpersonal relationships
- Ethical and legal issues
- Informed consent
- Managed care and fidelity.

THE PHYSICAL THERAPIST AS CONSULTANT

- Physical therapy consultation
- Building a consulting business
- The consulting process
- The skills of a good consultant
- Trust in the consultant/client relationship
- Ethical and legal issues in consultation
- Components of a consulting agreement.

THE PHYSICAL THERAPIST AS CRITICAL INQUIRER

- History of critical inquiry
- Evidence-based medicine
- Outcomes research
- Whose responsibility is research?
- Roles of the staff physical therapist in critical inquiry
- Collaboration in clinical research
- Ethical and legal issues in critical inquiry.

THE PHYSICAL THERAPIST AS EDUCATOR

- History of physical therapy education
- Contemporary educational roles of the physical therapist
- Teaching opportunities in continuing education
- Academic teaching opportunities
- Theories of teaching and learning in professional education
- Ethical and legal issues in physical therapy education.

THE PHYSICAL THERAPIST AS ADMINISTRATOR

- History of physical therapy administration
- Contemporary physical therapy administration
- Patient/client management
- First-line management
- Midlevel managers and chief executive officers
- Leadership
- Ethical and legal issues.

PROFESSIONAL DEVELOPMENT, COMPETENCE, AND EXPERTISE

- Lifelong process of skill enhancement
- The professional development continuum: from competence to expertise
- Activities that promote professional development
- Evaluation of competence and professional development
- Professional development planning
- Possible evaluators of professional achievement
- Career advancement
- Organizational impact on professional development.

FUTURE CHALLENGES IN PHYSICAL THERAPY

- Physical therapy's moral mission
- The future in three realms, individual, institutional & societal.
- Professionalism and the physical therapist.

RECOMMENDED TEXT BOOKS:

1. *Professionalism in Physical Therapy: History, Practice, & Development*, Lisa L. Dutton, PT, PhD.
2. APTA. *Guide to Physical Therapy Practice: Revised second edition*. Alexandria, VA: American Physical Therapy Association; 2003. ISBN: 978-1-887759-85.

INTEGUMENTARY PHYSICAL THERAPY

CREDIT HOURS 2 (2-0)

COURSE DESCRIPTION:

This course includes a study of anatomy and physiology of the Integumentary system and pathological changes of the system and function, including diagnostic tests and measurements. The use of evidence-based physical therapy intervention for Integumentary conditions is emphasized. Topics will focus on comparing contemporary and traditional interventions and the impact of evolving technology in this area. Topics will focus on medical terminology, clinical examination, evaluation, comparing contemporary, traditional interventions and the impact of evolving technology in this area.

MEDICAL TERMINOLOGY REGARDING INTEGUMENTARY SYSTEM

WOUND CARE CONCEPTS

- Quality of Life and Ethical Issues
- Regulation and wound Care
- Skin, an Essential Organ
- Acute and Chronic Wound Healing
- Wound assessment
- Wound Bioburden
- Wound Debridement
- Wound Treatment Options
- Nutrition and wound care
- Seating, Positioning and support surfaces
- Pain Management and wounds.

WOUND CLASSIFICATIONS AND MANAGEMENT STRATEGIES

- Pressure Ulcers
- Vascular Ulcers
- Diabetic Foot Ulcers
- Sickle Cell Ulcers
- Wounds in special Populations
- Complex wounds
- Atypical Wounds
- Wound Care; where we were, where we are, and where we are going?.

CASE HISTORIES

- Principles of assessment and outcome measures
- Documentation in SOAP notes format
- Evidence based integumentary Physical Therapy Treatment protocols.

RECOMMENDED TEXT BOOKS:

1. Wound Care Essentials, practice principles, By Sharon Baranoski & Elizabeth A. Ayello.
2. APTA. *Guide to Physical Therapy Practice: Revised second edition.* Alexandria, VA: American Physical Therapy Association; 2003. ISBN: 978-1-887759-85.

SUPERVISED CLINICAL PRACTICE - V
CREDIT HOURS 3 (0-3)

CARDIOVASCULAR AND PULMONARY

SEMESTER	SUPERVISION	FOCUS	WARDS	COMPETENCIES
9	Supervised by trained PT	Evaluation, Examination, and Intervention	Cardiovascular and pulmonary (IPD/OPD; surgical & non-surgical)	Listed below

COURSE DESCRIPTION:

During this supervised clinical practice, students are responsible for successful execution of examination, evaluation, and interventions relating to cardiovascular and pulmonary disorders. Students become familiar with performance of these skills in all settings (inpatient and outpatient) as well as on all types of conditions (surgical, non-surgical, pediatric and geriatric,.) Students learn to objectively perform these skills under the supervision of trained physical therapists. Student is required to keep a performance record of all listed competencies and successfully perform on real patients during the final evaluation of the course.

COMPETENCIES:

EXAMINATION

- Based on best available evidence select examination tests and measures that are appropriate for the patient/client.
- Perform posture tests and measures of postural alignment and positioning.
- Perform gait, locomotion and balance tests including quantitative and qualitative measures such as:
 - Balance during functional activities with or without the use of assistive, adaptive, orthotic, protective, supportive, or prosthetic devices or equipment
 - Balance (dynamic and static) with or without the use of assistive, adaptive, orthotic, protective, supportive, or prosthetic devices or equipment
 - Gait and locomotion during functional activities with or without the use of assistive, adaptive, orthotic, protective, supportive, or prosthetic devices or equipment to include:
 - ❖ Bed mobility
 - ❖ Transfers (level surfaces and floor)
 - ❖ Wheelchair management
 - ❖ Uneven surfaces
 - ❖ Safety during gait, locomotion, and balance

- Perform gait assessment including step length, speed, characteristics of gait, and abnormal gait patterns.
- Characterize or quantify body mechanics during self-care, home management, work, community, tasks, or leisure activities.
- Characterize or quantify ergonomic performance during work (job/school/play):
 - Dexterity and coordination during work
 - Safety in work environment
 - Specific work conditions or activities
 - Tools, devices, equipment, and workstations related to work actions, tasks, or activities
- Characterize or quantify environmental home and work (job/school/play) barriers:
 - Current and potential barriers
 - Physical space and environment
 - Community access
- Observe self-care and home management (including ADL and IADL)
- Measure and characterize pain to include:
 - Pain, soreness, and nociception
 - Specific body parts
- Recognize and characterize signs and symptoms of inflammation.
- Perform cardiovascular/pulmonary tests and measures including:
 - Heart rate
 - Respiratory rate, pattern and quality*
 - Blood pressure
 - Aerobic capacity test* (functional or standardized) such as the 6-minute walk test
 - Pulse Oximetry
 - Breath sounds – normal/abnormal
 - Response to exercise (RPE)
 - Signs and symptoms of hypoxia
 - Peripheral circulation (deep vein thrombosis, pulse, venous stasis, lymphedema).

EVALUATION

- Clinical reasoning
- Clinical decision making
- Synthesize available data on a patient/client expressed in terms of the International Classification of Function, Disability and Health (ICF) model to include body functions and structures, activities, and participation.
- Use available evidence in interpreting the examination findings.
- Verbalize possible alternatives when interpreting the examination findings.
- Cite the evidence (patient/client history, lab diagnostics, tests and measures and scientific literature) to support a clinical decision.

DIAGNOSIS

- Integrate the examination findings to classify the patient/client problem in terms of body functions and structures, and activities and participation (ie, practice patterns in the Guide)
- Identify and prioritize impairments in body functions and structures, and activity limitations and participation restrictions to determine specific body function and structure, and activities and participation towards which the intervention will be directed.

PROGNOSIS

- Determine the predicted level of optimal functioning and the amount of time required to achieve that level.
- Recognize barriers that may impact the achievement of optimal functioning within a predicted time frame including
 - Age
 - Medication(s)
 - Socioeconomic status
 - Co-morbidities
 - Cognitive status
 - Nutrition
 - Social Support
 - Environment.

PLAN OF CARE

- Goal setting
- Coordination of Care
- Progression of care
- Discharge
- Design a Plan of Care
 - Write measurable functional goals (short-term and long-term) that are time referenced with expected outcomes.
 - Consult patient/client and/or caregivers to develop a mutually agreed to plan of care.
 - Identify patient/client goals and expectations.
 - Identify indications for consultation with other professionals.
 - Make referral to resources needed by the patient/client (assumes knowledge of referral sources).
 - Select and prioritize the essential interventions that are safe and meet the specified functional goals and outcomes in the plan of care (ie, (a) identify precautions and contraindications, (b) provide evidence for patient-centered interventions that are identified and selected, (c) define the specificity of the intervention (time, intensity, duration, and frequency), and (d) set realistic priorities that consider relative time duration in conjunction with family, caregivers, and other health care professionals).
 - Establish criteria for discharge based on patient goals and current functioning and disability.

- Coordination of Care
- Identify who needs to collaborate in the plan of care.
- Identify additional patient/client needs that are beyond the scope of physical therapist practice, level of experience and expertise, and warrant referral.
- Refer and discuss coordination of care with other health care professionals.
- Articulate a specific rationale for a referral.
- Advocate for patient/client access to services.
- Progression of Care
- Identify outcome measures of progress relative to when to progress the patient further.
- Measure patient/client response to intervention.
- Monitor patient/client response to intervention.
- Modify elements of the plan of care and goals in response to changing patient/client status, as needed.*
- Make on-going adjustments to interventions according to outcomes including environmental factors and personal factors and, medical therapeutic interventions.
- Make accurate decisions regarding intensity and frequency when adjusting interventions in the plan of care.
- Discharge Plan
- Re-examine patient/client if not meeting established criteria for discharge based on the plan of care.
- Differentiate between discharge of the patient/client, discontinuation of service, and transfer of care with re-evaluation.*
- Prepare needed resources for patient/client to ensure timely discharge, including follow-up care.
- Include patient/client and family/caregiver as a partner in discharge.*
- Discontinue care when services are no longer indicated.
- When services are still needed, seek resources and/or consult with others to identify alternative resources that may be available.
- Determine the need for equipment and initiate requests to obtain.

INTERVENTIONS

- Safety, Emergency Care, CPR and First Aid
- Standard Precautions
- Body Mechanics and
- Positioning
- Categories of Interventions
 - Safety, Cardiopulmonary Resuscitation Emergency Care, First Aid
 - ❖ Ensure patient safety and safe application of patient/client care.
 - ❖ Perform first aid.
 - ❖ Perform emergency procedures.
 - ❖ Perform Cardiopulmonary Resuscitation (CPR).
- Precautions

- Demonstrate appropriate sequencing of events related to universal precautions.
- Use Universal Precautions.
- Determine equipment to be used and assemble all sterile and non-sterile materials.
- Use transmission-based precautions.
- Demonstrate aseptic techniques.*
- Apply sterile procedures.*
- Properly discard soiled items.*
- Body Mechanics and Positioning
 - Apply proper body mechanics (utilize, teach, reinforce, and observe).*
 - Properly position, drape, and stabilize a patient/client when providing physical therapy.*
- Interventions
 - Coordination, communication, and documentation may include: Addressing required functions:
 - Establish and maintain an ongoing collaborative process of decision-making with patients/clients, families, or caregivers prior to initiating care and throughout the provision of services.
 - Discern the need to perform mandatory communication and reporting (eg, incident reports, patient advocacy and abuse reporting).
 - Follow advance directives.
 - B. Admission and discharge planning.
 - C. Case management.
 - D. Collaboration and coordination with agencies, including:
 - (1) Home care agencies
 - (2) Equipment suppliers
 - (3) Schools
 - (4) Transportation agencies
 - (5) Payer groups
 - E. Communication across settings, including:
 - (1) Case conferences
 - (2) Documentation
 - (3) Education plans
 - F. Cost-effective resource utilization.
 - G. Data collection, analysis, and reporting of:
 - (1) Outcome data
 - (2) Peer review findings
 - (3) Record reviews
 - H. Documentation across settings, following APTA's Guidelines for Physical Therapy Documentation, including:
 - (1) Elements of examination, evaluation, diagnosis, prognosis, and Intervention
 - (2) Changes in body structure and function, activities and participation.

- (3) Changes in interventions
- (4) Outcomes of intervention
- Interdisciplinary teamwork:
 - Patient/client family meetings
 - Patient care rounds
 - Case conferences
 - Referrals to other professionals or resources.*
 - Patient/client-related instruction may include:
 - Instruction, education, and training of patients/clients and caregivers regarding:
 - (1) Current condition, health condition, impairments in body structure and function, and activity limitations, and participation restrictions)*
 - (2) Enhancement of performance
 - (3) Plan of care:
 - a. Risk factors for health condition, impairments in body structure and function, and activity limitations, and participation restrictions.
 - b. Preferred interventions, alternative interventions, and alternative modes of delivery
 - c. Expected outcomes
 - (4) Health, wellness, and fitness programs (management of risk factors)
 - (5) Transitions across settings.

Therapeutic exercise may include performing:

- A. Aerobic capacity/endurance conditioning or reconditioning*:
 - (1) Gait and locomotor training*
 - (2) Increased workload over time (modify workload progression)
 - (3) Movement efficiency and energy conservation training
 - (4) Walking and wheelchair propulsion programs
 - (5) Cardiovascular conditioning programs
- B. Relaxation:
 - (1) Breathing strategies*
 - (2) Movement strategies
 - (3) Relaxation techniques
- C. Airway clearance techniques may include*:
 - A. Breathing strategies*:
 - (1) Active cycle of breathing or forced expiratory techniques*
 - (2) Assisted cough/huff techniques*
 - (3) Paced breathing*
 - (4) Pursed lip breathing
 - (5) Techniques to maximize ventilation (eg, maximum inspiratory hold, breath stacking, manual hyperinflation).

B. Manual/mechanical techniques*:

- (1) Assistive devices.

C. Positioning*:

- (1) Positioning to alter work of breathing
- (2) Positioning to maximize ventilation and perfusion.

- Functional training in self-care and home management may include*:
- Functional training in work (job/school/play), community, and leisure integration or reintegration may include*:
 - Activities of daily living (ADL) training:
 - (1) Bed mobility and transfer training*
 - (2) Age appropriate functional skills
 - Barrier accommodations or modifications*
 - Device and equipment use and training:
 - (1) Assistive and adaptive device or equipment training during ADL (specifically for bed mobility and transfer training, gait and locomotion, and dressing)*
 - (2) Orthotic, protective, or supportive device or equipment training during self-care and home management*
 - (3) Prosthetic device or equipment training during ADL (specifically for bed mobility and transfer training, gait and locomotion, and dressing)*.
- Functional training programs*:
 - (1) Simulated environments and tasks*
 - (2) Task adaptation.
- Injury prevention or reduction:
 - (1) Safety awareness training during self-care and home management*
 - (2) Injury prevention education during self-care and home management
 - (3) Injury prevention or reduction with use of devices and equipment.
- Prescription, application, and, as appropriate, fabrication of devices and equipment may include*:
- Adaptive devices*:
 - (1) Hospital beds
 - (2) Raised toilet seats
 - (3) Seating systems – prefabricated.
- Assistive devices*:
 - (1) Canes
 - (2) Crutches

- (3) Long-handled reachers
- (4) Static and dynamic splints – prefabricated
- (5) Walkers
- (6) Wheelchairs
- Orthotic devices*:
 - (1) Prefabricated braces
 - (2) Prefabricated shoe inserts
 - (3) Prefabricated splints.
- Prosthetic devices (lower-extremity)*
- Protective devices*:
 - (1) Braces
 - (2) Cushions
 - (3) Helmets
 - (4) Protective taping
- Supportive devices*:
 - (1) Prefabricated compression garments
 - (2) Corsets
 - (3) Elastic wraps
 - (4) Neck collars
 - (5) Slings
 - (6) Supplemental oxygen - apply and adjust
 - (7) Supportive taping
- Electrotherapeutic modalities may include:
 - A. Biofeedback*
 - B. Electrotherapeutic delivery of medications (eg, iontophoresis)*
 - C. Electrical stimulation*:
 - (1) Electrical muscle stimulation (EMS)*
 - (2) Functional electrical stimulation (FES)
 - (3) High voltage pulsed current (HVPC)
 - (4) Neuromuscular electrical stimulation (NMES)
 - (5) Transcutaneous electrical nerve stimulation (TENS)
- Physical agents and mechanical modalities may include: *Physical agents*:
 - A. Cryotherapy*:
 - (1) Cold packs
 - (2) Ice massage
 - (3) Vapocoolant spray
 - B. Hydrotherapy*:
 - (1) Contrast bath
 - (2) Pools
 - (3) Whirlpool tanks*
 - C. Sound agents*:
 - (1) Phonophoresis*
 - (2) Ultrasound*
 - D. Thermotherapy*:
 - (1) Dry heat
 - (2) Hot packs*

(3) Paraffin baths*.

Mechanical modalities:

- A. Compression therapies (prefabricated)*
 - (1) Compression garments
Skill Category Description of Minimum Skills
 - (2) Vasopneumatic compression devices*
 - (3) Taping
 - (4) Compression bandaging (excluding lymphedema)
 - B. Gravity-assisted compression devices:
 - (1) Standing frame*
 - (2) Tilt table*
 - C. Mechanical motion devices*:
 - (1) Continuous passive motion (CPM)*
 - D. Traction devices*:
 - (1) Intermittent
 - (2) Positional
 - (3) Sustained
- Documentation of all listed competencies in SOAP notes format.

TENTH SEMESTER

1. **OBSTETRICS & GYNEACOLOGICAL PHYSICAL THERAPY**
2. **PAEDIATRIC PHYSICAL THERAPY**
3. **GERONTOLOGY & GERIATRIC PHYSICAL THERAPY**
4. **SPORTS PHYSICAL THERAPY**
5. **SUPERVISED CLINICAL PRACTICE - VI**
6. **RESEARCH PROJECT**

OBSTETRICS & GYNEACOLOGICAL PHYSICAL THERAPY CREDIT HOURS 2 (2-0)

COURSE DESCRIPTION:

This course intends to provide Introduction to physical therapy practice for evaluation and treatment of pelvic floor dysfunction and an Introduction to physical therapy practice for evaluation and treatment of problems related to pregnancy, osteoporosis, and other disorders specific to women. Topics will focus on medical terminology, clinical examination, evaluation, comparing contemporary, traditional interventions and the impact of evolving technology in this area.

COURSE OUT LINE:

MEDICAL TERMINOLOGY REGARDING GYNECOLOGY, OBSTETRICS AND WOMEN'S HEALTH

- Anatomy
- Physiology of pregnancy
- Physical and physiological changes of labour and the puerperium