

<b>INSTITUTE</b>	<b>FACULTY OF PHYSIOTHERAPY</b>
<b>PROGRAM</b>	<b>MASTER OF PHYSIOTHERAPY</b>
<b>SEMESTER</b>	<b>1</b>
<b>COURSE TITLE</b>	<b>PHYSICAL AND FUNCTIONAL DIAGNOSIS</b>
<b>COURSE CODE</b>	<b>17MP0102</b>
<b>COURSE CREDITS</b>	<b>3</b>

**Objective:**

- 1 To demonstrate skills related to communication, assessment and management and recognize potential adverse outcomes of the various disorders.
- 2 To interpret the clinical findings, laboratory report and imaging studies based on the evidence.
- 3 To integrate diagnostic skill in clinical assessment and management of various conditions.
- 4 To demonstrate an effective interdisciplinary team member and communicate effectively with various stakeholders involved in healthcare.
- 5 To demonstrate knowledge of professional responsibility in the assessment and diagnosis of Disorders.

**Course Outcomes:** After completion of this course, student will be able to:

- 1 Demonstrate skills related to communication, assessment and management and recognize potential adverse outcomes of the various disorders.
- 2 Interpret the clinical findings, laboratory report and imaging studies based on the evidence.
- 3 Integrate diagnostic skill in clinical assessment and management of various conditions.
- 4 Demonstrate an effective interdisciplinary team member and communicate effectively with various stakeholders involved in healthcare.
- 5 Demonstrate knowledge of professional responsibility in the assessment and diagnosis of Disorders.

**Pre-requisite of course:** To have the basic Knowledge of Common Conditions: Familiarity with common orthopedic, neurological and cardiopulmonary conditions.

**Teaching and Examination Scheme**

<b>Theory Hours</b>	<b>Tutorial Hours</b>	<b>Practical Hours</b>	<b>ESE</b>	<b>IA</b>	<b>CSE</b>	<b>Viva</b>	<b>Term Work</b>
1	0	1	50	30	20	50	50

<b>Contents : Unit</b>	<b>Topics</b>	<b>Contact Hours</b>
1	<b>Clinical Decision Making and Functional evaluation.</b> Clinical Decision Making - Planning Effective Treatment. Clinical decision-making models, Team approach, Foundation for clinical decision making. , Functional evaluation - The concepts of health status impairment; functional limitations; disability and handicap; definition of functional activity and the purposes and components of the functional assessment; selection of activity and roles for an individual based on his or her capabilities and functional limitations., Various forms of functional tests; physical function test and multi-dimensional functional assessment instrument, identification of instrument for testing function. , Various scoring methods used in functional assessment; and its reliability and validity	6
2	<b>Vital Signs</b> Vital Signs. Identification of reasons for monitoring vital signs; importance of monitoring vital signs; common techniques of monitoring vital signs; identification and analysis of normal values with that of abnormal values.	2
3	<b>Investigative and imaging techniques in Physiotherapy</b> Principles and application of investigative and imaging techniques in Physiotherapy (i). Blood test (ii). Arterial Blood Gas (ABG) analysis (iii).Pulmonary Function Test (PFT) (iv).Radiological examination (v).Computerized Tomography (CT) (vi).Magnetic Resonance Imaging (MRI) (vii).Ultrasonography (US) (viii). Electrocardiography (ECG) (ix).Dope testing	8
4	<b>Electro-Diagnosis:</b> Electro-Diagnosis: (i).Characteristics and components of Electro therapeutic stimulation systems and Electro physiological assessment devices. (ii).Instrumentation for neuromuscular electrical stimulation. (iii). Electrical properties of muscle and nerve. (iv).Neurobiology of afferent pain transmission and central nervous system mechanisms of pain modulation. (v).Electrical stimulation and circulation. , Clinical Electro physiological testing: Instruments, Techniques and Interpretations of (i). Nerve conduction velocity including Repetitive Nerve Stimulation (RNS) (ii). Electromyography (iii). Bio-feedback technique. (iv). Late responses, Concepts of electro physiological studies in neuro muscular diseases as a diagnostic and therapeutic tool. , Evoked potentials – VEP, SSEP, MEP, BAEP	12
5	<b>Psychological aspects of rehabilitation</b> Psychological aspects of rehabilitation in disability: Psychological tests. , Developmental Screening (i).Factors Motor control assessment (ii).Motor control theories/mechanism (iii).Patterns of normal development (iv).specific procedures and tests used to assess motor control defects	2

<b>Contents : Unit</b>	<b>Topics</b>	<b>Contact Hours</b>
6	<b>Diagnosis in Physiotherapy</b> Differential diagnosis in Physiotherapy , Evaluation of aging, Anthropometry a. Body measurements - Height - Weight – Circumference b. Body Proportion - Body Mass Index (BMI) - Waist Hip Ratio (WHR) c. Body Composition (i). Somatotyping (ii). Methods of measurement (iii). Water displacement (iv). Skin fold measurement (v) Under water weighing (vi) .Bioelectric Impedance Analysis (BIA)	10
<b>Total Hours</b>		<b>40</b>

**Suggested List of Experiments:**

<b>Contents : Unit</b>	<b>Topics</b>	<b>Contact Hours</b>
1	<b>Evaluation assessment and treatment planning</b> Evaluation assessment and treatment planning strategies for musculoskeletal, neurological, cardiopulmonary, sports specific and other physiotherapy conditions: Principles of evaluation, clinical manifestations, general and specific clinical examination. , Physiotherapy assessment of the following: (i). Range of motion (ROM) (ii) Tone (iii). Muscular strength and endurance (iv). Flexibility (v). Coordination - Non equilibrium test - Equilibrium test (vi). Sports specific skills (vii). Cardiac efficiency (viii). Sensory evaluation (ix). Functional Evaluation - Various scoring methods in functional assessment - Validity and reliability (x). Fitness evaluation - Aerobic - Anaerobic (xi). Spasm (xii). Trigger Point (xiii). Tender Point (xiv). Spasm , Assessment of cognitive, perceptual dysfunctions and vestibular dysfunction.	12
2	<b>Developmental Screening</b> specific procedures and tests used to assess motor control defects	4
3	<b>Anthropometry</b> Anthropometry a. Body measurements - Height - Weight – Circumference b. Body Proportion - Body Mass Index (BMI) - Waist Hip Ratio (WHR) c. Body Composition (i). Somatotyping (ii). Methods of measurement (iii) Skin fold measurement	4
4	<b>Differential diagnosis in Physiotherapy</b> Differential diagnosis in Physiotherapy - Assessment and special test	10
5	<b>Electro-Diagnosis</b> Clinical Electro physiological testing: Instruments, Techniques and Interpretations of (i). Nerve conduction velocity including Repetitive Nerve Stimulation (RNS) (ii). Electromyography (iii). Bio-feedback technique. (iv). Late responses, RD test	10
<b>Total Hours</b>		<b>40</b>

**Textbook :**

- 1 Differential Diagnosis PHYSICAL THERAPISTS Screening for Referral , Goodman Snyder, Elsevier, 2007
- 2 Clinical Neurophysiology: Nerve Conduction, Electromyography, Evoked Potentials, U.K. Misra, J Kalita, Elsevier Health Sciences, 2014
- 3 Illingworth's The Development of the Infant and Young Child Normal and Abnormal, Ronald S Illingworth, ELSEVIER, 2012
- 4 Physical Rehabilitation, Susan B. O'Sullivan, F.A. Davis Company, 2014
- 5 Pocket Atlas of Sectional Anatomy, Torsten B. Moeller, MD, Thieme, 2007
- 6 Orthopedic Physical Assessment, David J Magee, Saunders, 2014

**References:**

- 1 Pathology and Intervention in Musculoskeletal Rehabilitation , Pathology and Intervention in Musculoskeletal Rehabilitation , David J Magee, Saunders, 2009
- 2 Motor Control: Translating Research Into Clinical Practice, Motor Control: Translating Research Into Clinical Practice, Anne Shumway-Cook, Marjorie H. Woollacott , Wolters Kluwer,, 2017
- 3 ACSM's Guidelines for Exercise Testing and Prescription, ACSM's Guidelines for Exercise Testing and Prescription, ACSM, Wolters Kluwer Health, 2013

**Suggested Theory Distribution:**

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
10.00	20.00	25.00	25.00	10.00	10.00

**Instructional Method:**

- 1 Theory+Practical