MANIPAL
ACADEMY of HIGHER EDUCATION
(Deemed to be University under Section 3 of the UGC Act, 1956)

Manipal College of Health Professions

(Mangaluru Campus)

Manipal Academy of Higher Education, Manipal

Outcome-Based Education (OBE) Framework

Two Years Full Time

Postgraduate Program

(Choice - Based Credit System)

Master of Physiotherapy (Community Physiotherapy)

MPT (Community Physiotherapy)

With effect from July 2021

C O N T E N T P A G E

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**

1. NATURE AND EXTENT OF THE PROGRAM

Background and need of the program:

Physiotherapy in India has a history of over 70 years. It is a changing and evolving profession which encompasses the concepts of public health and primary/secondary prevention, rehabilitation and fitness for work, self-management of long term conditions and the provision of palliative care for all ages. The physiotherapist works in a complex environment and with multidisciplinary teams in primary healthcare industry, schools, hospitals and private practices. This work takes place in diverse communities and cultures. In a climate of changing health needs and healthcare provision, the physiotherapist requires skills in leadership and decision making. Lifestyle changes over the years resulted in an increase in the problems of neurological, musculoskeletal and cardiopulmonary systems. This means that the services of physiotherapists are in greater demand. Here at MAHE, we constantly upgrade our education and clinical skills to keep up with the current needs. The infrastructure at Kasturba Hospital Udupi, Manipal, and Mangalore and Manipal Hospital Bangalore provide an almost unending canvas to work on.

Duration of the Program: Two years

- Four Semesters (Two years) of academic program

Aim of the Program:

i. To provide an opportunity for qualified physiotherapists with an undergraduate degree to practice as Community Physiotherapists.

ii. To educate and empower the students to be independent practitioners using an advanced body of knowledge in a competent manner towards those who need such services, using evidence based practice with autonomy in quality assurance while maintaining the humanitarian approach of service.

iii. To acquire skills required to be an effective theoretical & clinical teacher in physiotherapy, be proficient in research methods and apply these in the pursuance of research in physiotherapy.

iv. To learn elements of administration in order to be an effective physiotherapy manager.

v. To practice life-long learning, professional development, for the benefit of students, the profession and to increase the effectiveness of health and social care delivery.

Entry level Qualification:

i. The candidate must have passed Bachelor of Physiotherapy from any recognized University in India or abroad.

ii. The candidate should have obtained an aggregate of 50% in all subjects of Bachelor of Physiotherapy

Scope of the Program:

On completion of the M.P.T. program, the graduates will be a competent physiotherapy specialist having heightened ethical and moral responsibilities as a health professional, demonstrating strong clinical reasoning skills with evidence-based approach in assessment, clinical diagnosis and intervention of a wide range of diseases and dysfunctions in various system.

- Postgraduates will have job opportunities in various acute hospitals, rehabilitation centers, multispecialty hospitals, special schools, geriatric centers, private organizations, non-government organizations and government institutions.
- Postgraduates can also pursue doctoral studies in clinical areas of their interest and become teaching faculty in the academic institutions.
- Postgraduates may also undertake research in Physiotherapy.

2. PROGRAM EDUCATION OBJECTIVES (PEOs)

The overall objective of the learning outcome-based curriculum framework (LOCF) for MPT (Community Physiotherapy) are as follows:

PEO No.	Education Objective
PEO 1	Students will be able to apply advanced body of knowledge and clinical competency with evidence based practice in Physiotherapy to achieve professional excellence.
PEO 2	Students will execute high order skills in analysis, critical evaluation and/or professional application of clinical and practical skills in Physiotherapy
PEO 3	Students will practice the profession by ethical norms and communicate effectively with the multi-disciplinary team.
PEO 4	Students will acquire creative proficiency in interpersonal and collaborative skills to identify, assess and formulate problems and execute the solution.
PEO 5	Students will synthesize research ideas, develop innovations, incubate new concepts and encourage entrepreneurship.
PEO 6	Students will display lifelong learning process for a highly productive career and will be able to relate the concepts of Physiotherapy towards serving the cause of the society.

3. GRADUATE ATTRIBUTES

S No.	Attribute	Description
1.	**Professional Knowledge**	Critically appraise scientific knowledge and integrate evidence based practice as a health care professional
2.	**Clinical / practical skills**	Apply clinical / practical skills to prevent, assess and manage quality health care services
3.	**Communication**	Displays empathetic and professional communication skills to patients/clients, care-givers, other health professionals and other members of the community
4.	**Cooperation/Team work**	Ability to practice collaboratively and responsibly with multidisciplinary team members to deliver high quality health care
5.	**Professional ethics**	Ability to resolve ethical issues and practice the ethical values in the professional life
6.	**Research / Innovation-related Skills**	Ability to generate and investigate research questions and translate the evidence into clinical practice.
7.	**Critical thinking and problem solving**	Ability to reason and judge critically and provide solutions for real life situations
8	**Reflective thinking**	Employ reflective thinking along with sense of awareness of one self and society
9	**Information/digital literacy**	Excel in use information communication and technology in ongoing learning situations
11.	**Multi-cultural competence**	Ability to effectively lead and respond in a multicultural society

S No.	Attribute	Description
12.	**Lifelong Learning**	Demonstrate the ability to acquire knowledge and skills that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to demands of work place through knowledge/skill development/reskilling.

4. QUALIFICATION DESCRIPTORS:

a. Apply (i) Advanced and up-to-date knowledge and excel in the academic field of study as a whole and its applications, and links to related disciplinary areas/subjects of study; including a critical understanding of the established theories, principles and concepts, and of a number of advanced and emerging issues in the field of Physiotherapy (ii) Procedural knowledge that creates different types of professionals related to the Physiotherapy, including research and development, teaching and in government and public service; (iii) Professional and communication skills in the domain of Physiotherapy, including a critical understanding of the latest developments, and an ability to use established techniques in the domain of Physiotherapy.

b. Possess comprehensive knowledge about Physiotherapy, including current research, scholarly, and/or professional literature, relating to essential and advanced learning areas pertaining to the field of study, and techniques and skills required for identifying problems and issues.

c. Proficient skills in i) identifying the issues in health care needs; ii) collection of quantitative and/or qualitative data relevant to client's needs and professional practice; iii) analysis and interpretation of data using methodologies as appropriate for formulating evidence based hypotheses and solutions.

d. Apply knowledge, understanding and skills for critical assessment of a wide range of ideas and complex problems and issues relating to Physiotherapy in various specialties.

e. Communicate efficiently with all stakeholders, and provide relevant information to the members of the healthcare team.

1. Optimize one's own learning needs relating to current and emerging areas of study, making use of research, development and professional materials based on new frontiers of knowledge.

g. Execute one's disciplinary knowledge and transferable skills to new/unfamiliar contexts and to identify and analyse problems and issues and seek solutions to real-life problems.

5. PROGRAM OUTCOMES (POs):

After successful completion of Master of Physiotherapy (Community Physiotherapy) program, students will be able to:

PO No.	Attribute	Competency
PO 1	**Professional knowledge**	Apply current evidence and **scientific knowledge** to work as an expert member of health care system
PO 2	**Clinical/ Technical skills**	Employ **clinical skills** to provide quality health care services
PO 3	**Team work**	Empower the **team** with shared goals with the interdisciplinary health care team to improve societal health
PO 4	**Ethical value & professionalism**	Impart **ethical values and professionalism** within the legal framework of the society
PO 5	**Communication**	**Communicate** professionally with the multidisciplinary health care team and the society
PO 6	**Evidence based practice**	Appraise and adopt high quality **evidence based practice** that leads to excellence in professional practice
PO 7	**Life-long learning**	Advance knowledge and skills with the use of recent technology for the **continual improvement** of professional practice
PO 8	**Entrepreneurship, leadership and mentorship**	Build **entrepreneurship, leadership and mentorship** skills to practice independently as well as in collaboration with the multidisciplinary health care team

6. COURSE STRUCTURE, COURSE WISE LEARNING OBJECTIVE, AND COURSE OUTCOMES (COs)

SEMESTER - I

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
ABS6101	Advanced Biostatistics & Research Methodology	3	1	-	-	4	30	70	100
PTH6001	Principles of Physiotherapy Practice	1	2	-	-	3	100	-	100
PTH6003	Clinical Practice in Physiotherapy	-	-	-	36	12	100	-	100
PTH6270	Research Proposal in Community Physiotherapy	-	-	4	-	2	100	-	100
	Total	**4**	**3**	**4**	**36**	**21**	**330**	**70**	**400**
Note: ABS6101 will be out of 50 marks and normalized to 70 marks									

SEMESTER - II

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
EPG6201	Ethics and Pedagogy	1	1	-	-	2	100	-	100
PTH6202	Foundations of Physiotherapy in Community	1	2		-	3	50	50	100
PTH6204	Physiotherapy Clinical Practice in Community	-	-	-	36	12	100	-	100
PTH6280	Research Progress in Community Physiotherapy - I	-	-	4	-	2	100	-	100
	Total	**2**	**3**	**4**	**36**	**19**	**350**	**50**	**400**
Note: PTH6202 will be conducted for 100 marks and normalized to 50 marks									

SEMESTER - III

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PTH7201	Physiotherapy in General Occupational Health	1	2	-	-	3	50	50	100
PTH7203	Physiotherapy Clinical Practice in Occupational Health	-	-	-	36	12	50	50	100
PTH7205	Evidence Based Physiotherapy Practice in Occupational Health	1	1	-	-	2	100	-	100
PTH7270	Research Progress in Community Physiotherapy - II	-	-	6	-	3	100	-	100
	Total	**2**	**3**	**6**	**36**	**20**	**300**	**100**	**400**

Note:
PTH7201 will be conducted for 100 marks and normalized to 50 marks
PTH7203 will be conducted for 100 marks and normalized to 50 marks

SEMESTER - IV

Program Elective: Elective in Occupational Health & Ergonomics

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PTH7212	Physiotherapy in Occupational Health & Ergonomics	1	2	-	-	3	50	50	100
PTH7214	Clinical Physiotherapy Practice in Occupational Health & Ergonomics	-	-	-	36	12	50	50	100
PTH7280	Research Project in Community Physiotherapy	-	-	10	-	5	50	50	100
	Total	**1**	**2**	**10**	**36**	**20**	**150**	**150**	**300**

Note:
PTH7212 will be conducted for 100 marks and normalized to 50 marks
PTH7214 will be conducted for 100 marks and normalized to 50 marks

OVERALL CREDIT DISTRIBUTION

SEMESTER	Credit distribution					Marks Distribution		
	L	T	P	CL	CR	IAC	ESE	Total
I - SEMESTER	4	3	4	36	21	330	70	400
II - SEMESTER	2	3	4	36	19	350	50	400
III - SEMESTER	2	3	6	36	20	300	100	400
IV - SEMESTER	1	2	10	36	20	150	150	300
Grand Total	**9**	**11**	**24**	**144**	**80**	**1130**	**370**	**1500**

INTERNAL ASSESSMENT COMPONENT (IAC) WEIGHTAGE DISTRIBUTION

Theory		Practical		Research	
Components	**%**	**Components**	%	**Components**	**%**
Mid semester exam	50	Case presentation	50	Performance evaluation	50
Class seminar	30	Clinical performance	50	Presentation/ Report submission	50
Assignments	20				

SEMESTER - I

COURSE CODE	:	COURSE TITLE
ABS6101	:	Advanced Biostatistics & Research Methodology
PTH6001	:	Principles of Physiotherapy Practice
PTH6003	:	Clinical Practice in Physiotherapy
PTH6270	:	Research Proposal in Community Physiotherapy

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Advanced Biostatistics & Research Methodology**
Course Code	**ABS6101**
Academic Year	First
Semester	I
Number of Credits	04
Course Prerequisite	Students should have basic knowledge of research and statistical tools
Course Synopsis	This course enables the student to understand the basics of research methods and design a research protocol for their research question. Additionally the course also enables the student to estimate sample size for their study, use statistical tests to analyse the results of the study and make meaningful interpretations.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Define the terms related to statistics and research methods (C1)
CO2	List and explain the research designs and sampling techniques (C2)
CO3	Explain, calculate and interpret the measures of central tendency (C4)
CO4	Determine sample size for the studies using means and proportions formula (C5)
CO5	Analyse and interpret the outputs of parametric and non-parametric tests (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x					x		
CO3	x							
CO4	x						x	
CO5	x							

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1	1. Define statistics (C1) 2. List the uses of statistics in health science research. (C1) 3. Explain the role of Statistics in clinical and preventive Medicine. (C2)	**4**

Content	Competencies	Number of Hours
	4. Differentiate qualitative and quantitative variables with examples. (C3) 5. Differentiate discrete and continuous variables with examples. (C4) 6. List the properties of various scales of measurement with example. (C1) 7. Define central tendency, measure of central tendency. (C1) 8. Define arithmetic mean, median and mode. List the properties, situation for use, and examples. (C1) 9. Determine the three measures from raw data. (C5)	
Unit 2		
	1. Define and calculate quartiles and percentiles. (C4) 2. Define measures of dispersion (C1) 3. Define, calculate and interpret range, quartile deviation, interquartile range, standard deviation, variance and coefficient of variation.(C4) 4. Give the situation for the use of these measures (C2).	**4**
	1. Describe the properties of Normal and Standard Normal Distribution with sketch (C2) 2. List the applications.(C1) 3. Calculate probabilities recollecting the coverage of the intervals mean±SD, , mean±2SD, mean±3SD (C4) 4. Define skewness and list the characteristics with sketch.(C1) 5. Define kurtosis and list the characteristics with sketch.(C1) 6. Define and differentiate parameter and statistic with examples (C4). 7. Define the basic terms-population, sample, sampling, parameter, statistic, estimate and estimator. (C1) 8. Define Point estimate (C1) 9. Define and Differentiate standard deviation and standard error (C4) 10. Define sampling distribution (C1) 11. Describe the importance of sampling distributions of different statistics.(C2) 12. Determine the sampling distribution of sample mean, sample proportion, difference between two means, difference between two proportions (Large sample approximation (CLT).(C5) 13. Calculate the standard error of mean, proportion, difference between two means, and difference between	**5**

Content	Competencies	Number of Hours
	two proportions. (Large sample approximation (CLT). (C4)	
	1. Construct and interpret confidence interval for mean, difference between two means, proportion, difference between two proportions (large sample approximation) (C5)	**3**
Unit 3		
	1. Define /explain with example the concept of null hypothesis, alternative hypothesis, type I and type II errors. (C2) 2. Define level of significance, power of the test and p-value (C1) 3. Explain the difference between one sided and two-sided test (C2) 4. Give the situation for non-parametric tests. (C2) 5. List the differences, merits and demerits of non-parametric over parametric tests. (C1)	**4**
	1. Explain the situation, hypothesis tested, assumptions and example for paired and unpaired t-test. (C2) 2. Interpret the output of paired and unpaired t-test (C4) **3.** Explain the situation, hypothesis tested, assumptions and example for one-way and repeated measures ANOVA (C2)	**3**
	1. Explain the situation, hypothesis tested, assumptions and example for : Mann-Whitney U-test, Wilcoxon signed rank test, Kruskal-Wallis ANOVA and Friedman's ANOVA (C2) 2. Explain the situation, hypothesis tested, assumptions and example for Chi square test association/independence and McNemar's test for association (C2) 3. Computation and interpretation of chi-square test (2 x2 table) and McNemar's test result (C2)	**4**
	1. Give example for positive and negative correlations. (C2) 2. Explain different types of correlation with the help of scatter diagrams. (C2) 3. Give the assumptions, properties, and interpretation of correlation coefficient.(C4) 4. Explain the situation for the computation of Pearson's and Spearman's correlation coefficient. (C2) 5. Interpret coefficient of determination.(C4) 6. Explain the situation, example, application and	**4**

Content	Competencies	Number of Hours
	assumptions for linear and multiple regression.(C2) 7. Interpret regression coefficients in simple and multiple regression.(C4) 8. Explain the need for sample size computation.(C2) 9. Given the situation/ingredients, should be able to determine sample size for estimating mean and proportion, testing of difference in means and proportions of two groups.(C5)	
	1. Explain the difference between rate, ratio, and proportion with example. (C2) 2. Calculate rate, ratio, and proportion (C4) 3. Define and calculate Incidence and prevalence rates.(C4) 4. Explain the design, merits and demerits of Case report, case series analysis, prevalence studies and ecological studies with example (C2)	**3**
	1. Explain the design, analysis (2x2 table and odds ratio), merits and demerits ((unmatched and 1:1 matched design) of case control study with example.(C2) 2. Explain the design, analysis (2x2 table and relative risk), merits and demerits of cohort study with example.(C2)	**3**
	1. Explain confounding with example. (C2) 2. List the methods to deal with confounding at design and analysis stage.(C1) 3. Explain the design, analysis, merits and demerits of RCT with example. (C2) 4. Explain the need of simple, block and stratified randomization with example.(C2) 5. Explain the need and type of blinding with example (C2)	**4**
	1. Explain the situation for the use of logistic regression and survival analysis with example.(C2)	**3**
	1. Define Population, sample, sampling, and sampling frame. Give one example each.(C1) 2. List the characteristics of a good sample.(C1) 3. Differentiate and list the advantages and disadvantages of random and non- random sampling techniques.(C4) 4. Explain simple, stratified, systematic, cluster and multistage random sampling techniques with examples. List the merits and demerits of each of them.(C2) 5. Explain Convenience, quota, judgment and snowball sampling with examples. List the merits and demerits of each of them.(C2) 6. Explain the difference between sampling and non-	**4**

Content	Competencies	Number of Hours
	sampling errors. Give example for sampling and non-sampling errors. List the methods to minimize these errors.(C2)	
	1. Define Sensitivity, specificity, PPV and NPV. (C1) 2. Explain with example method of computation and interpretation. (C4) 3. Explain with example, the situation for the application of Bland Altman plot, Kappa statistic. (C2) 4. Explain the interpretation of Kappa Statistics. (C2) 5. Explain the format of various research documents. (C2)	**4**
	Total	**52**

Learning Strategies, Contact Hours and Student Learning Time (SLT)					
Learning Strategies	**Contact Hours**		**Student Learning Time (SLT)**		
Lecture	42		84		
Tutorial	4		8		
Self-directed learning (SDL)	6		12		
Total	**52**		**104**		
Assessment Methods					
Formative	**Summative**				
Assignments/Presentations/Quiz	Mid Semester Exam				
	End Semester Exam				
Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester Examination	x	x	x		
Quiz / Assignment				x	x
End Semester Exam	x	x	x	x	x
Feedback Process	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference	1. Research for Physiotherapists: Project Design and Analysis – Caroline Hicks. (1995) 2. Tests, Measurements and Research in Behavioural Sciences by A K Singh (1986) 3. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. (2015) 4. Foundations of Clinical Research by Leslie Gross Portney (2020) 5. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A (2018)				

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Principles of Physiotherapy Practice**
Course Code	**PTH6001**
Academic Year	First
Semester	I
Number of Credits	03
Course Prerequisite	Students should have basic knowledge and skills in physiotherapy practice
Course Synopsis	The course will provide information about principles of evaluation and management of people with musculoskeletal, neurological, cardiorespiratory, paediatric, women health and geriatric disorders to apply basic and applied sciences in the evaluation and management. This course will also help the students to gain insights regarding standards of physiotherapy practice in the institution and community healthcare settings. This course will be delivered in the form of lectures, tutorials, and self-directed learning. Theory examination will be used to assess the students' transferable skills and the learning outcomes.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Outline the guidelines for standards of physiotherapy practice (C4)
CO2	Explain disability, models of disability and disability evaluation (C4)
CO3	Explain the biomechanics, physiology and control of human movement (C4)
CO4	Outline the principles of physiotherapy evaluation and treatment in various diseases and disorders relevant to physiotherapy practice (C4)
CO5	Explain the process of clinical reasoning and decision making in physiotherapy practice (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							x
CO2	x							
CO3	x							
CO4	x					x		
CO5	x					x		

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Standards of physiotherapy practice	1. Outline the national and international guidelines for standards of physiotherapy practice (C4) 2. Explain the role of entrepreneurship, leadership and innovation in physiotherapy practice (C4)	01
Unit 2		
Disability and evaluation	1. Explain disability (C4) 2. Distinguish between different models of disability (C4) 3. Explain disability evaluation (C4)	02
Unit 3		
Development of Posture and Movement across life span	1. Explain the development of postural control across life span (C4) 2. Explain the development of movement across life span (C4) 3. Explain the development and maturation of reflexes (C4)	02
Unit 4		
Biomechanics	1. Outline the biomechanics of TMJ, Joints of Thorax, Spine and Pelvis, Joints of Upper and Lower Extremity (C4)	01
Unit 5		
Exercise Physiology	1. Explain the acute responses and chronic adaptations to exercise (C4) 2. Explain the principles of exercise testing and prescription (C2)	03
Unit 6		
Pain	1. Explain the physiology of pain (C4) 2. Distinguish between different mechanisms of pain control (C4) 3. Categorize the strategies of pain management (C4)	01
Unit 7		
Neurophysiology of balance, coordination and locomotion	1. Explain the neurophysiology of balance and coordination (C4) 2. Explain the neurophysiology of locomotion (C4)	02

Content	Competencies	Number of Hours
Unit 8		
Theories of Motor control and Motor Learning	1. Explain motor control (C4) 2. Compare and contrast between different theories of Motor control (C4) 3. Explain motor learning and theories of Motor Learning (C4)	02
Unit 9		
Principles of physiotherapy evaluation	1. Outline the principles of musculoskeletal, neurological, and cardiopulmonary evaluation (C4) 2. Outline the special considerations for physiotherapy evaluation in children, women and older adults (C4) 3. Outline the evaluation protocols for physical fitness (C4) 4. Explain the principles of diabetic foot examination (C4)	08
Unit 10		
Gait	1. Distinguish between normal and pathological gait (C4) 2. Explain the methods of gait analysis (C4)	01
Unit 11		
Principles and applications of Electrodiagnosis	1. List the electrodiagnostic methods (C4) 2. Explain the principles of electrodiagnostic testing methods (C4) 3. Outline the clinical applications of electrodiagnostic methods (C4)	01
Unit 12		
Outcome Measures in Physiotherapy	1. Categorize the outcome measures based on body structure and function, activity and participation domains of ICF (C4) 2. Explain the psychometric properties of commonly used outcome measures (C4) 3. Explain the method of administration and interpretation of commonly used outcome measures (C4)	03
Unit 13		
Clinical investigations relevant to Physiotherapy practice	1. Choose the clinical investigations relevant to Physiotherapy practice (C3): Imaging; Biochemical; Electrophysiological; and systemic functional tests 2. Interpret the findings in clinical investigations	02

Content	Competencies	Number of Hours
	relevant to Physiotherapy practice (C2)	
Unit 14		
Physiotherapy treatment approaches	1. Outline the principles of physiotherapy treatment approaches including manual therapy, neurological, paediatric and cardiopulmonary rehabilitation (C4)	02
Unit 15		
Therapeutic electrophysical agents	1. Categorize therapeutic electrophysical agents (C4) 2. Explain the physiological and therapeutic uses, applications and rationale of electrophysical agents (C4)	01
Unit 16		
Community Based Rehabilitation	1. Explain the principles of Community Based Rehabilitation (C4)	01
Unit 17		
Clinical Reasoning / clinical decision making in physiotherapy practice	1. Outline the models of clinical reasoning (C2) 2. Explain the processes involved in clinical decision making (C2) 3. Explain the principles of evidence based practice in physiotherapy (C2)	02
Unit 18		
Universal Precautions	1. Apply the universal precautions for infection control in physiotherapy practice (C3)	01
Unit 19		
Wound care	1. Explain the principles of tissue healing & physiotherapy assessment and management for wound care (C4)	01
Unit 20		
Prosthetics and Orthotics	1. Explain the principles of prosthetic and orthotic prescription (C4) 2. List the types, uses, advantages and disadvantages of upper limb, lower limb and spinal orthosis and prosthesis (C4)	02
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	26	52
Total	**39**	**78**

Assessment Methods	
Formative	**Summative**
Presentations	Sessional Exam (theory)

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination	x	x	x	x	x
Assignments/Presentations	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Albrecht GL, Seelman KD, Bury M, editors. Handbook of disability studies. Sage Publications; 2001 May 24. 2. Bélanger AY. Therapeutic electrophysical agents: evidence behind practice. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2010. 3. Boissonnault WG, editor. Examination in physical therapy practice: screening for medical disease. New York, NY: Churchill Livingstone; 1995 Jun. 4. Braddom's Physical Medicine and Rehabilitation by Cifu David X et al; 5th Ed, Elsevier (2016) 5. Brandt Jr EN, Pope AM. Models of disability and rehabilitation. 6. Cech DJ, Martin ST. Functional movement development across the life span. Elsevier Health Sciences; 2002 Mar 29. 7. Dittmar SS, Gresham GE, editors. Functional assessment and outcome measures for the rehabilitation health professional. Aspen Pub; 1997. 8. Enderby P, John A, Petheram B. Therapy outcome measures for rehabilitation professionals: speech and language therapy, physiotherapy, occupational therapy. John Wiley & Sons; 2013 May 31. 9. Essentials of Exercise Physiology by William McArdle et al; Wolters Kluwer Health Inc (2016) 10. Exercise Physiology: Energy, Nutrition and Human Performance by William McArdle, Frank I. Katch, Victor K. Katch; 7th edition (2010) 11. Hausdorff JM, Alexander NB, editors. Gait disorders: evaluation and management. Taylor & Francis US; 2005

Jul 15.
12. Haywood K, Getchell N. Life Span Motor Development 6th Edition. Human Kinetics; 2014 Jul 21.
13. Levangie PK, Norkin CC. Joint structure and function: a comprehensive analysis. FA Davis; 2011.
14. Magee DJ. Orthopedic physical assessment. Elsevier Health Sciences; 2014.
15. McMahon SB, Koltzenburg M, Tracey I, Turk D. Wall & Melzack's Textbook of Pain E-Book. Elsevier Health Sciences; 2013.
16. MCSP PM. Standards of Physiotherapy Practice.
17. Misra UK; et al. Principles of Neurophysiology. Elsevier Health Sciences; 2010
18. Neumann DA. Kinesiology of the Musculoskeletal System-E-Book: Foundations for Rehabilitation. Elsevier Health Sciences; 2013.
19. Nordin M, Frankel VH, editors. Basic biomechanics of the musculoskeletal system. Lippincott Williams & Wilkins; 2001.
20. O'Sullivan SB, Schmitz TJ, Fulk G. Physical rehabilitation. FA Davis; 2013 Jul 23.
21. Perry J. Gait analysis. Normal and pathological function. 2010:19-47.
22. Shumway-Cook A, Woollacott MH. Motor control: translating research into clinical practice. Lippincott Williams & Wilkins; 2007.
23. Shurr DG, Michael JW, Cook TM. Prosthetics and orthotics. Upper Saddle River: Prentice Hall; 2002.
24. Siegelbaum SA, Hudspeth AJ. Principles of neural science. Kandel ER, Schwartz JH, Jessell TM, editors. New York: McGraw-hill; 2000 Jan.
25. Uustal H. Prosthetics and orthotics. InEssential Physical Medicine and Rehabilitation 2006 (pp. 101-118). Humana Press.
26. Wadsworth H, Chanmugam AP. Electrophysical agents in physiotherapy: therapeutic & diagnostic use. Science Press; 1983.
27. Woollacott MH, Shumway-Cook A. Changes in posture control across the life span—a systems approach. Physical therapy. 1990 Dec 1;70(12):799-807.
28. World Confederation for Physical Therapy. WCPT guideline for standards of physical therapy practice.
29. Related scientific publications

NOTE: this is not an exhaustive list of references
and there will be other textbooks and articles which should be referenced as well

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Clinical Practice in Physiotherapy**
Course Code	**PTH6003**
Academic Year	First
Semester	I
Number of Credits	12
Course Prerequisite	Students should have basic knowledge and skills in physiotherapy practice
Course Synopsis	The course will provide information about principles of evaluation and management of people with musculoskeletal, neurological, cardiorespiratory, paediatric, women health and geriatric disorders to apply basic and applied sciences in the evaluation and management. This course will also help the students to gain insights regarding standards of physiotherapy practice in the institution and community healthcare settings. This course will be delivered in the form of practical demonstrations, tutorials, self-directed learning, problem based learning and case based learning. Practical examination will be used to assess the students' transferable skills and the learning outcomes.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Perform physiotherapy assessment and evaluation in people with diseases and disorders (C4, P4, A2)
CO2	Perform physiotherapy techniques in people with diseases and disorders to improve health and wellbeing (C4, P4, A2)
CO3	Recognize and relate the processes involved in clinical decision making in physiotherapy evaluation and treatment (C4, P1, A1)
CO4	Follow ethical and professional behavior (Autonomy, beneficence, justice) during clinical practice and demonstrates the ability to work as a team (A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x		x				
CO2		x		x				
CO3		x				x		
CO4		x		x				

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Physiotherapy evaluation in clinical practice	1. Perform musculoskeletal, neurological, and cardiopulmonary physiotherapy evaluation (C4, P4, A2) 2. Explain the special considerations for physiotherapy evaluation in children, women and older adults and display the assessment techniques (C4, P3, A1) 3. Explain the evaluation protocols for physical fitness and measure physical fitness (C4, P3, A1) 4. Explain and demonstrate the components of diabetic foot examination (C4, P2, A1) 5. Explain the methods of analysis and perform posture, balance and gait evaluation (C4, P4, A1) 6. Examine pain and perform pain assessment (C4, P4, A2) 7. Explain and demonstrate the components of physiotherapy assessment in wound care (C4, P2, A1) 8. Choose the outcome measures based on Impairment, activity and participation domains of ICF in the clinical practice (C4, P1, A1) 9. Discuss and display the method of administration of the commonly used outcome measures and interpret it (C4, P3, A1) 10. Choose the clinical investigations relevant to Physiotherapy practice (C3, P1, A1): Imaging; Biochemical; Electrophysiological; and systemic functional tests 11. Identify and interpret the findings in clinical investigations relevant to Physiotherapy practice (C2, P1, A1) 12. Recognize and relate the processes involved in clinical decision making in physiotherapy evaluation (C4, P1, A1) 13. Explain health related information with clients, caregivers, peers and health care professionals and demonstrates the ability to work as a team during evaluation (C4, P5, A3) 14. Demonstrate ethical and professional behavior (Autonomy, beneficence, justice) during physiotherapy evaluation (A3)	234

Content	Competencies	Number of Hours
Unit 2		
Physiotherapy management in clinical practice	1. Perform physiotherapy techniques in clinical practice including musculoskeletal, neurological, and cardiopulmonary rehabilitation (C4, P4, A2) 2. Explain the special considerations for physiotherapy management in children, women and older adults and display the treatment techniques (C4, P3, A1) 3. Explain the protocols for maintaining and improving physical fitness (C4, P2, A1) 4. Explain the principles of diabetic foot management (C4, P2, A1) 5. Explain the principles of posture, balance and gait rehabilitation and perform treatment techniques to train posture, balance and gait (C4, P4, A1) 6. Categorize and perform the strategies of pain management (C4, P4, A2) 7. Display the method of application of therapeutic electrophysical agents in the clinical practice (C4, P4, A1) 8. Explain the principles of physiotherapy management in wound care (C4, P2, A1) 9. Follow the universal precautions for infection control in physiotherapy practice (C3, P3, A1) 10. Recognize and relate the processes involved in clinical decision making in physiotherapy management (C4, P1, A1) 11. Explain health related information with clients, caregivers, peers and health care professionals and demonstrates the ability to work as a team during treatment (C4, P5, A3) 12. Demonstrate ethical and professional behavior (Autonomy, beneficence, justice) during treatment (A3)	234
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Self-directed learning (SDL)	36	72
Case Based Learning (CBL)	28	56
Clinic	360	-

Practical	28	56
Assessment	16	32
Total	**468**	**216**

Assessment Methods	
Formative	**Summative**
Case Presentations	-
Clinical Performance	-

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Assignments/Presentations	x	x	x	
Clinical competency	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Albrecht GL, Seelman KD, Bury M, editors. Handbook of disability studies. Sage Publications; 2001 May 24. 2. Bélanger AY. Therapeutic electrophysical agents: evidence behind practice. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2010. 3. Boissonnault WG, editor. Examination in physical therapy practice: screening for medical disease. New York, NY: Churchill Livingstone; 1995 Jun. 4. Braddom's Physical Medicine and Rehabilitation by Cifu David X et al; 5th Ed, Elsevier (2016) 5. Brandt Jr EN, Pope AM. Models of disability and rehabilitation. 6. Cech DJ, Martin ST. Functional movement development across the life span. Elsevier Health Sciences; 2002 Mar 29. 7. Dittmar SS, Gresham GE, editors. Functional assessment and outcome measures for the rehabilitation health professional. Aspen Pub; 1997. 8. Enderby P, John A, Petheram B. Therapy outcome measures for rehabilitation professionals: speech and language therapy, physiotherapy, occupational therapy. John Wiley & Sons; 2013 May 31. 9. Essentials of Exercise Physiology by William McArdle et al; Wolters Kluwer Health Inc (2016) 10. Exercise Physiology: Energy, Nutrition and Human Performance by William McArdle, Frank I. Katch, Victor K. Katch; 7th edition (2010) 11. Hausdorff JM, Alexander NB, editors. Gait disorders: evaluation and management. Taylor & Francis US; 2005 Jul 15. 12. Haywood K, Getchell N. Life Span Motor Development 6th

Edition. Human Kinetics; 2014 Jul 21.
13. Levangie PK, Norkin CC. Joint structure and function: a comprehensive analysis. FA Davis; 2011.
14. Magee DJ. Orthopedic physical assessment. Elsevier Health Sciences; 2014.
15. McMahon SB, Koltzenburg M, Tracey I, Turk D. Wall & Melzack's Textbook of Pain E-Book. Elsevier Health Sciences; 2013.
16. MCSP PM. Standards of Physiotherapy Practice.
17. Misra UK; et al. Principles of Neurophysiology. Elsevier Health Sciences; 2010
18. Neumann DA. Kinesiology of the Musculoskeletal System-E-Book: Foundations for Rehabilitation. Elsevier Health Sciences; 2013.
19. Nordin M, Frankel VH, editors. Basic biomechanics of the musculoskeletal system. Lippincott Williams & Wilkins; 2001.
20. O'Sullivan SB, Schmitz TJ, Fulk G. Physical rehabilitation. FA Davis; 2013 Jul 23.
21. Perry J. Gait analysis. Normal and pathological function. 2010:19-47.
22. Shumway-Cook A, Woollacott MH. Motor control: translating research into clinical practice. Lippincott Williams & Wilkins; 2007.
23. Shurr DG, Michael JW, Cook TM. Prosthetics and orthotics. Upper Saddle River: Prentice Hall; 2002.
24. Siegelbaum SA, Hudspeth AJ. Principles of neural science. Kandel ER, Schwartz JH, Jessell TM, editors. New York: McGraw-hill; 2000 Jan.
25. Uustal H. Prosthetics and orthotics. InEssential Physical Medicine and Rehabilitation 2006 (pp. 101-118). Humana Press.
26. Wadsworth H, Chanmugam AP. Electrophysical agents in physiotherapy: therapeutic & diagnostic use. Science Press; 1983.
27. Woollacott MH, Shumway-Cook A. Changes in posture control across the life span—a systems approach. Physical therapy. 1990 Dec 1;70(12):799-807.
28. World Confederation for Physical Therapy. WCPT guideline for standards of physical therapy practice.
29. Related scientific publications

NOTE: this is not an exhaustive list of references
and there will be other textbooks and articles which should be referenced as well

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Research Proposal in Community Physiotherapy**
Course Code	**PTH6270**
Academic Year	First
Semester	I
Number of Credits	02
Course Prerequisite	Students should have basic knowledge in research methodology
Course Synopsis	The course is designed to have the student understand the nuances in developing and presenting a research protocol. It will facilitate the student to inculcate skills essential to the identification of a research gap of clinical relevance through a systematic literature search. This course will facilitate the application of research methodology towards the development of a research plan and the use of appropriate outcomes to prove the hypothesis. The course will also equip the student with the knowledge on scientific approvals required prior to initiation of the study in accordance to current regulations for the conduct of the research project.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Demonstrate literature search and develop need for the study (C5, P5)
CO2	Prepare a research proposal and justifies its rationale (C5, P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2		x			x			

Course Content and Outcomes

Content	**Competencies**	**Number of Hours**
Unit 1		
Formulation of research question	1. Prepare search strategy and demonstrate Literature Search (C5, P5) 2. Critically appraise the literature, identify research gap and need for the study (C3, P4)	10

Content	Competencies	Number of Hours
Unit 2		
Method selection	1. Choose appropriate study design for the research question (C5, P1) 2. Organize procedural steps for implementing the study (C3, P4)	08
Unit 3		
Outcome measures	1. Choose appropriate outcome measure based on research question and psychometric properties (C5, P1) 2. Comply with the process of obtaining permission to use outcome measures from sources/ developers (A2)	08
Unit 4		
Research proposal document	1. Prepare a research proposal document (P4) 2. Choose appropriate statistical tools and tests (C5)	13
Unit 5		
Scientific Approvals	1. Proposes research protocol to relevant scientific committee(s) (P5, A3) 2. Justifies the need and rationale for the study to the committee (C5,P4, A3)	13
	Total	**52**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	06	12
Self-directed learning (SDL)	42	-
Assessment	04	08
Total	**52**	**20**

Assessment Methods	
Formative	**Summative**
Presentations	-
Research Progress and Conduct	-

Mapping of Assessment with COs		
Nature of Assessment	**CO1**	**CO2**
Viva	x	x
Presentations	x	x
Clinical/Practical Log Book/ Record Book	x	x

Feedback Process	Presentation
Main References	1. Research for Physiotherapists: Project Design and Analysis –Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

SEMESTER - II

COURSE CODE	:	COURSE TITLE
EPG6201	:	Ethics and Pedagogy
PTH6202	:	Foundations of Physiotherapy in Community
PTH6204	:	Physiotherapy Clinical Practice in Community
PTH6280	:	Research Progress in Community Physiotherapy - I

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Ethics and Pedagogy**
Course Code	**EPG 6201**
Academic Year	First
Semester	II
Number of Credits	02
Course Prerequisite	NIL
Course Synopsis	The ethics module will help the post graduate students in understanding the ethical principles, identifying the ethical issues and resolving ethical dilemmas in their professional practice with specific focus on clinical and research ethics. The pedagogy of the module will help the post graduate students in understanding the educational philosophy, teaching learning methods and learners' assessment. This module will be delivered in the form of didactic lectures in workshop format and small group learning tutorials, seminars, demonstrations during practical sessions, problem based learning & self-directed learning. Theory examination, assignments and demonstrations will be used to assess the student's transferable skills and learning outcomes.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Apply ethical principles in clinical and research practice (C3)
CO2	Analyse ethical issues and resolve ethical dilemmas (C4)
CO3	Integrate principles of adult learning and various roles of teacher in their academic practice (C2)
CO4	Apply various teaching learning methods (C3, P4)
CO5	Assess students' achievements based on learning outcomes (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x			x				
CO2	x			x				
CO3	x			x				
CO4	x	x						
CO5	x			x				

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1: Ethics		
Principles of ethics History and evolution of ethics - Helsinki declaration; Nuremberg Code; Principles of ethics and its importance - Autonomy, Beneficence, Non-maleficence, Justice	1. Outline the history and evolution of bioethics (C2) 2. Explain the cardinal principles of bioethics (C2) 3. Apply national and international bioethical principles (C3)	2
Ethics in professional practice Principles of practice in respective profession. Privacy, confidentiality, shared decision making, informed consent, equality and equity, justice	1. Outline the principles of ethics in professional practice - clinical, research, academics, administrative domains (C2) 2. Apply the principles of ethics in professional practice (C3)	
ICMR Guidelines General principles, Responsible conduct of research, Risk benefit assessment	1. Outline the general principles of ethics for conduct of research based on ICMR guidelines (C2) 2. Summarize the characteristics for responsible conduct of research (C2) 3. Identify potential ethical issues based on risk benefit analysis (C3)	3
Informed Consent Process Components of informed consent document, Procedure in obtaining informed consent, Special situations, waivers, and proxy consent	1. Explain the components and procedures of informed consent process (C2) 2. Apply suitable methods in obtaining informed consent (C3) 3. Distinguish special considerations of informed consent process for waivers and proxy consent (C4)	
Roles and Responsibilities of IEC Ethical Review process, Classification of projects for review, Roles and responsibilities of members, Communications with investigators and authorities	1. Outline the process of ethical review of research proposals (C2) 2. Relate the types of review based on the research project proposals (C2) 3. Summarize the roles and responsibilities of IEC and its members (C2)	2

Content	Competencies	Number of Hours
	4. Organize the mock ethical review meeting (C3) and examine the research proposal for ethical issues (C4)	
Ethics in Special and Vulnerable Populations Types of Vulnerability and vulnerable population, Challenges for research in vulnerable population, Guidelines for research in special and vulnerable population	1. Define and explain the types of Vulnerability (C2) 2. Outline the characteristics of special and vulnerable population (C2) 3. Summarize the challenges for research in vulnerable population (C2) 4. Apply the ICMR guidelines for research in special and vulnerable population (C3)	2
Conflict of Interest Definition and Types of Conflict of Interest, Identifying, mitigating and managing Conflict of Interest, Conflicts of interest in international collaborations	1. Define and explain the types of Conflict of Interest (C2) 2. Identify and solve potential Conflict of Interest (C3)	3
Publication Ethics Importance of publishing, Authorship guidelines according to ICMJE, Plagiarism	1. List the importance of publishing scholarly works (C4) 2. Examine the criteria of authorship based on ICMJE guidelines (C4) 3. Test the publication for plagiarism (C4)	
Unit 2: Pedagogy		
Principles of adult learning Systems approach in education; Curriculum - Definition, Components, Types of Curriculum (Outcomes-based, Competency-based, Performance-based, Objectives-based), Curricular alignment, Integrated Curriculum, Frameworks, Models (Harden's SPICES model) and approaches (problems-based learning, case-based learning).	1. Relate 'Systems Approach' in education (C2) 2. Define and explain the components of curriculum (C2) 3. Outline the types of curricular frameworks (C2) 4. Identify the characteristics of curricular frameworks (C3)	2

Content	Competencies	Number of Hours
Taxonomy of learning Blooms Taxonomy: Knowledge, Psychomotor and Affective domains, Specific Learning Objectives - Elements, construction, mapping of SLOs to course outcomes.	1. Classify domains of learning (C2) 2. Distinguish the levels of mastery for each learning domains (C4) 3. Outline the elements of specific learning objectives (C3) 4. Organize specific learning objectives based on domains of learning (C3)	2
Teaching Methods Small Group Teaching: Group dynamics, Categories of SGT, Facilitating techniques, Generic & Specific SGT methods Large Group Teaching: Lectures	1. Outline small group teaching methods (C3) 2. Explain the generic and specific methods of small group teaching (C3) 3. Outline large group teaching methods (C3) 4. Explain the facilitation methods in large group lectures (C3) 5. Perform microteaching (P4)	5
Learner Assessment Principles, Characteristics and Types of assessment - Formative/Summative, Tools, Blueprinting	1. Outline the principles, characteristics and types of assessment (C3) 2. Identify appropriate tools for assessment. (C3) 3. Construct a blueprint of assessment for theory and practical exam (C3)	5
	Total	**26**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Small group discussion (SGD)	09	18
Assignment / Microteaching	04	08
Total	**26**	**52**

Assessment Methods	
Formative	**Summative**
Unit A	Unit A
Assignments – Clinical Ethics (10); Research Ethics (10);	Sessional Exam: 30 MCQs = 30 marks

Unit B		Unit B			
Assignments – Blueprinting (10)		Sessional Exam: 20 MCQs = 20 marks			
Presentations – Microteaching sessions (20)					
Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester Examination	x	x	x	x	x
Assignments/Presentations	x	x	x	x	x
Feedback Process	Mid-Semester Feedback				
	End-Semester Feedback				
Main References	**UNIT 1: Ethics** 1. Beauchamp and Childress, Principles of Biomedical Ethics, Fourth Edition. Oxford. 1994. 2. Patricia A Marshall. Ethical challenges in study design and informed consent for health research in resource poor settings. World Health Organization. 2007. 3. National Ethical guidelines for Biomedical and Health Research involving human participants. Indian Council of Medical Research. 2017. **UNIT 2: Pedagogy** 1. ABC of Learning and Teaching in Medicine. Editor(s): Peter Cantillon, Diana Wood, Sarah Yardley. Ed: 3 2. Understanding Medical Education: Evidence, Theory, and Practice, Editor(s): Tim Swanwick Kirsty Forrest Bridget C. O'Brien. Ed 3 3. Principles of Medical Education. Editor(s): Tejinder Singh, Piyush Gupta, Daljit Singh. Jaypee Brothers. 2012. NewDelhi.				

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Foundations of Physiotherapy in Community**
Course Code	**PTH6202**
Academic Year	First
Semester	II
Number of Credits	03
Course Prerequisite	Student should have basic knowledge in Community Based Rehabilitation, Community based physiotherapy, various chronic diseases, disabilities, ICF framework learnt during Bachelor of Physiotherapy
Course Synopsis	The course will help the students to understand the dynamics of disability and community based rehabilitation. Students will be able to integrate knowledge towards care of individuals with chronic illness and disabilities. This course will facilitate students to apply basic and applied sciences in clinical decision making process towards rehabilitation of individuals with disability in the community. This course will be delivered in the form of Lectures, Tutorials, demonstration during practical sessions, clinical teaching through case presentations/discussions, supervised clinical practice and self-directed and problem based learning. Theory and practical examination will be used to assess the students' transferable skills and the learning outcomes.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Appraise fundamental and advanced knowledge in therapeutic sciences and research, in patient evaluation, treatment planning, execution of the plan and developing and executing research protocols (C5)
CO2	Develop comprehensive assessment protocols for low resource settings and community outreach setting (C3)
CO3	Develop the necessary knowledge to Conduct a holistic and comprehensive Rehabilitation safely and competently, and make use of available resources including legal services (C3)
CO4	Evaluate and monitor treatment plans in community settings (C5)
CO5	Apply problem-solving principles and evidence-based practice in decision making of patient/client management; (C3)

CO6	Identify the scope and limitations of professional practices, manage and refer appropriately, form and participate as a member of interdisciplinary team for delivering rehabilitation in community settings (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	X		x					
CO2	x							
CO3	x					x		
CO4	x							
CO5	x							
CO6	x			x				

Course contents and outcomes

Contents	Competencies	Number of Hours
Unit 1		
International Classification of Functioning, Disability and Health (ICF)	1. Outline the history of ICF (models of disability), Aims, Properties, overview of components and uses of ICF core sets (C2) 2. Definition and levels of classification (C3) 3. Explain the implications in Physiotherapy (Physical and Psychosocial) (C5,)	3
Unit 2		
Community Based Rehabilitation	1. Describe the WHO Matrix and Physiotherapy Role in IEC (information, education and communication) (C2) 2. Explain the principles of Community Based Rehabilitation (C2) 3. Describe the process of Implementation of CBR (C5) 4. Understand the evaluation of Impairment and Disability (C5) 5. Appraise the evaluation of patient and CBR program (C5)	5
Unit 3		
Community Physiotherapy	1. Outline and explain the approaches in rehabilitation (C2) 2. Explain the health care delivery models (C2) 3. Summarize the therapeutic interventions addressing Quality of life (C2)	5

Contents	Competencies	Number of Hours
Unit 4		
Chronic illness and disability	1. Define and classify chronic illness and disability (C3) 2. Explain the assessment of disability as recommended by Government of India (C5) 3. Appraise Hypothesis Oriented Algorithm for disability assessment (C5)	7
Unit 5		
Inter-professional team in community based rehabilitation	1. Describe the role and contributions of each member of a community rehabilitation team: physician, nurse practitioner, pharmacist, physical therapist, social worker, case manager, occupational therapist and speech language pathologist: (C2) 2. Elaborate, summarize, and participate in a variety of methods used to communicate among healthcare professionals regarding the status and well-being of patients (C2) 3. Demonstrate Effective Documentation (C2) 4. Explain Team dynamics (C2) 5. Explain the process and principles of work delegation and communication with IPT members (C2) 6. Explain WCPT recommendations for IPT (C2)	4
Unit 6		
Care-giving and chronic illness	1. Explain the concept of caregiving (C2) 2. Explain the role of family in caregiving (C2) 3. Outline the caregiver health profile (C2) 4. Explain caregiver burden (C2) 5. Appraise the strategies to manage caregiver burden (C5)	2
Unit 7		
Universal Design and Inclusion	1. Outline the principles of universal design (C2) 2. Explain accessibility for individuals with disability (C5) 3. Plan and evaluate the need for assistive devises (C3) 4. Explain the designing and prescription of assistive devices (C2) 5. Outline the factors influencing acceptance and abandonment of assistive devices (C2)	7

Contents	Competencies	Number of Hours
Unit 8		
Community health programs	1. Explain the role of Physiotherapy in Fitness of Normal School Children (C5) 2. Outline physiotherapy for Students with Disability (C2) 3. Explain adapted Physical Activity (C5)	3
Unit 9		
Technology in Rehabilitation	1. Appraise the use of technology in rehabilitation (C5)	**3**
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	8	16
Small group discussion (SGD)	12	24
Problem Based Learning (PBL)	2	4
Case Based Learning (CBL)	4	8
Total	**39**	**78**

Assessment Methods	
Formative	**Summative**
Presentations	Mid Semester/Sessional Exam (Theory)
	End Semester Exam (Theory)

Mapping of Assessment with COs						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x		x			
Presentations	x	x	x	x	x	x
End Semester Exam	x	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main References	1. WHO I, UNESCO I. Community-based rehabilitation: CBR guidelines. Geneva: WHO. 2010. 2. Pruthvish S. Community based rehabilitation of persons with disabilities. Jaypee; 2006. 3. DeLisa JA. Rehabilitation medicine: principles and practice. Lippincott Williams & Wilkins; 1988.

	4. Braddom RL. Physical Medicine and Rehabilitation E-Book. Elsevier Health Sciences; 2010 Dec 7. 5. Mpofu E, Oakland T, editors. Rehabilitation and health assessment: applying ICF guidelines. Springer Publishing Company; 2009 Aug 21.
Additional References	Guidelines Statements of bodies relevant to Course and Program

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Physiotherapy Clinical Practice in Community**
Course Code	**PTH6204**
Academic Year	First
Semester	II
Number of Credits	12
Course Prerequisite	Students should have basic knowledge in applied anatomy, applied physiology and physiotherapeutic skills.
Course Synopsis	This module is designed to enable students to: Apply fundamental and advanced knowledge in therapeutic sciences. Demonstrate comprehensive assessment techniques and interpret findings. Formulate and prescribe specific treatment plan. Monitor and re-evaluate treatment plans. Communicate effectively in verbal and written forms with patients, their family/caregiver, peers, healthcare professionals and the stakeholders at large

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Analyse and apply the principles of physiotherapy evaluation and management in community settings (C4, P5, A3)
CO2	Plan a skilled physical examination, select outcome measures, demonstrate clinical decision making and perform physiotherapy management of a patient with acute and chronic pain(C3,P5,A3)
CO3	Apply outcome measures in the evaluation and management of clients suffering chronic disabling conditions (C3,P5,A2)
CO4	Discuss health related information and display verbal and written communication with patients/ clients, caregivers, peers and health care professionals and ability to work as a team (C3, P5, A3)
CO5	Practices ethical principles during assessment and treatment (A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3	x	x						
CO4			x		x			
CO5				x	x			

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Assessment of impairment, functional loss, and disability in chronic medical conditions	1. Perform a comprehensive assessment of patients following the principles of ICF (C2, P5, A3) 2. Justify and perform the assessment methods of the following systems: (C4, P5, A3) • Respiratory • Cardiovascular • Integumentary • Neuro musculoskeletal 3. Choose outcome measures relevant to Medical – surgical conditions (C3, P5, A2) 4. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 5. Demonstrate the clinical reasoning and decision making process for the management of the patient based on the evaluation (C3, P5, A3) 6. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during evaluation (A4)	160
Unit 2		
Multifactorial assessment, of contextual factors affecting functioning (Home, workplace, public spaces)	1. Explain and perform physiotherapy assessment of environmental factors affecting functioning in various contexts (C2, P4, A3) 2. Choose outcome measures relevant to contextual factor evaluation (C3, P5, A2) 3. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 4. Demonstrate the clinical reasoning and decision making process for the management of the patient based on the evaluation (C3, P5, A3) 5. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during evaluation (A4)	110
Unit 3		
Pain evaluation and management	1. Plan a comprehensive physical examination, demonstrate clinical decision making and perform physiotherapy management of a patient with acute and chronic pain (C3, P5, A3) 2. Choose validated outcome measures (C3, P5, A2)	40

Content	Competencies	Number of Hours
	3. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 4. Display ethical and professional behavior (Autonomy, Beneficence and Justice) during evaluation (A4)	
Unit 4		
Delivery of Physiotherapy Care in community settings independently and as part of Inter-Disciplinary team	1. Organizes problem list and plan short term and long-term goals based on the evaluation findings (C3, P5, A3) 2. Plan and perform Physiotherapy treatment techniques (C3, P5, A3) 3. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 4. Displays ethical and professional behavior (Autonomy, Beneficence and Justice) during treatment (A4)	158
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)					
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**			
Self-directed learning (SDL)	36	72			
Case Based Learning (CBL)	28	56			
Clinic	360	-			
Practical	28	56			
Assessment	16	32			
Total	**468**	**216**			
Assessment Methods					
Formative	**Summative**				
Case presentations	-				
Clinical performance	-				
Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Case Presentations	x	x	x	x	x
Clinical performance	x	x	x	x	x
Feedback Process	Mid-Semester Feedback				
	End-Semester Feedback				

Main Reference	1. WHO I, UNESCO I. Community-based rehabilitation: CBR guidelines. Geneva: WHO. 2010. 2. Pruthvish S. Community based rehabilitation of persons with disabilities. Jaypee; 2006. 3. DeLisa JA. Rehabilitation medicine: principles and practice. Lippincott Williams & Wilkins; 1988. 4. Braddom RL. Physical Medicine and Rehabilitation E-Book. Elsevier Health Sciences; 2010 Dec 7. 5. Mpofu E, Oakland T, editors. Rehabilitation and health assessment: applying ICF guidelines. Springer Publishing Company; 2009 Aug 21.
Additional References	Guidelines Statements of bodies relevant to Course and Program

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Research Progress in Community Physiotherapy - I**
Course Code	**PTH6280**
Academic Year	First
Semester	II
Number of Credits	02
Course Prerequisite	Students should have knowledge of research methodology
Course Synopsis	The course is designed to ensure the student is aware of the proper methods of data collection, monitoring and obtaining necessary documentation related to the study (i.e., informed consent). The course will facilitate certification in Good Clinical Practice to ensure research is conducted in accordance to the current regulations and requirements. The course will also motivate the student stay up-to-date with the research in the area of study through regular updates of the literature review.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Explain and demonstrate good clinical practice during research (P5, A3)
CO2	Demonstrate data collection procedures and document maintenance (P4, A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1				x		x		
CO2		x	x					

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Good Clinical Practice	1. Explain components of Good Clinical Practice for conducting health related research based on ICMR guidelines (C2, P2, A1)	08
Unit 2		
Data collection	1. Perform data collection according to the procedure approved by the approval committees (P5, A3)	26
Unit 3		
Document maintenance	1. Obtain, organize and store the documents relevant to the study e.g. Informed Consent document, Ethical approvals, data collection forms (P4, A4)	06

Content	Competencies	Number of Hours
Unit 4		
Literature Review update	1. Perform literature search and update the review (P4)	12
	Total	**52**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	10	20
Self-directed learning (SDL)	32	-
Practical	10	-
Total	**52**	**20**
Assessment Methods		
Formative	**Summative**	
Research Progress and Conduct		
Mapping of Assessment with COs		

Nature of Assessment	**CO1**	**CO2**
Assignments/Presentations		x
Clinical/Practical Log Book/ Record Book	x	

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis - Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamania NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referred as well.

SEMESTER - III

COURSE CODE	:	COURSE TITLE
PTH7201	:	Physiotherapy in General Occupational Health
PTH7203	:	Physiotherapy Clinical Practice in Occupational Health
PTH7205	:	Evidence Based Physiotherapy Practice in Occupational Health
PTH7270	:	Research Progress in Community Physiotherapy - II

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Physiotherapy in General Occupational Health**
Course Code	**PTH7201**
Academic Year	Second
Semester	III
Number of Credits	03
Course Prerequisite	Student should have basic knowledge on disability and concepts of health and diseases in the workplace
Course Synopsis	The course will facilitate students to relate the principles of occupational health in the process of assessment and restorative/ compensatory management of individuals at workplaces. It will help them to perform comprehensive evaluation at worksite using effective outcome measures/ assessment tools and interpretation of findings in selecting treatment options and making decisions about management and where necessary referring the client for medical specialist opinion. The course will facilitate the students in planning and delivering the management using conventional and modern treatment approaches. This course will be delivered in the form of Lectures, Tutorials, demonstration during practical sessions, clinical teaching through case presentations/discussions, supervised clinical practice and self-directed and problem based learning. Theory and practical examination will be used to assess the students' transferable skills and the learning outcomes.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Apply advanced and evidence based knowledge of community physiotherapy in therapeutic sciences and research with Emphasis to Occupational Health (C3)
CO2	Appraise advanced evidence based assessment techniques and interpretation of findings, in diseases/disorders, of occupational origin (C5)
CO3	Explain the formulation and prescription of advanced evidence-based treatment plan for specific case and condition (C5)
CO4	Appraise the basics of delivering evidence-based treatment safely and competently in outpatient rehabilitation as well as occupational settings (C5)
CO5	Identify the scope and limitations of professional practices (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)								
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x		x					
CO2	x						x	
CO3	x				x		x	
CO4	x				x	x		
CO5	x			x				x

Course Content and Outcomes

S.No.	Competencies	Number of Hours
Unit 1		
Industrial Safety & Labour Laws	1. Identify laws related to occupational health and safety (C3) 2. Explain and apprise the need for laws related to occupational health and safety (C5) 3. Identify the scenario of occupational health and safety laws in India (C3)	2
Unit 2		
Occupational Hazards	1. List and classify occupational hazards under the following (C2) • Biological and Chemical • Physical • Psychological • Ionizing radiation	3
Unit 3		
Occupational Biomechanics	1. Explain biomechanics of Spine, Upper and Lower Extremity (C5) 2. Appraise biomechanics under Static Work, Repetitive Work and Loading Tasks (C5)	8
Unit 4		
Anthropometric Principles in Workplace	1. Explain the use of Anthropometric Data for designing tools, workstations, and work flow (C5) 2. Appraise Design for People with Functional Limitations (Pregnancy, Older Adults) (C5)	5
Unit 5		
Occupational Risk Assessment in jobs	1. Evaluate the risk with respect to work postures and physical work demands (C5) (Sitting, Standing, balancing, Manual Material Handling, use of precision tools/heavy mechanical devices/ vibratory tools etc.)	4

S.No.	Competencies	Number of Hours
Unit 6		
Human Information Processing	1. List the types of information processing units (C1) 2. Explain the skills required by workers for information processing (C5) 3. Appraise the errors and hazards related to Human Information Processing (C5)	4
Unit 7		
Occupational Stress	1. Explain Occupational Stress under the following: (C5) • Etiology, • Patho-Physiology • Remedial Measures	3
Unit 8		
Ergonomics	1. Explain ergonomics under the following: (C5) • Introduction • Principles • Scope • Evaluation	6
Unit 9		
Worksite wellness programs	1. Explain the strategies to implement worksite wellness programs (C5) 2. Compare the global and Indian worksite wellness programs (C5) 3. Explain outcome assessments in worksite programs (C5)	4
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	8	16
Small group discussion (SGD)	12	24
Problem Based Learning (PBL)	2	4
Case Based Learning (CBL)	4	8
Total	**39**	**78**

Assessment Methods	
Formative	**Summative**
Presentations (Seminar)	Mid Semester/Sessional Exam (Theory)
	End Semester Exam (Theory)

Mapping of Assessment with COs					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester / Sessional Examination 1	x	x	x	x	x
Presentations	x	x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main References	1. Ergonomic Guidelines for Manual Material Handling by National Institute for Occupational Safety and Health (NIOSH) and Centers for Disease Control and Prevention, 2007. 2. Sharp R. ABC of Occupational and Environmental Medicine. 3. Waldron HA. Occupational health practice. Butterworth-Heinemann; 2013 Oct 22. 4. Pheasant S. Bodyspace: Anthropometry, Ergonomics And The Design Of Work: Anthropometry, Ergonomics And The Design Of Work. CRC Press; 2014 Apr 21. 5. Eastman Kodak Company. Kodak's ergonomic design for people at work. John Wiley & sons; 2004. 6. Bridger R. Introduction to ergonomics. Crc Press; 2008 Jun 26. 7. Shravan Kumar. Biomechanics in Ergonomics 2nd edition. CRC press 2007 8. Mark A Friend, James P Kohn. Fundamentals of occupational safety and Health; 4th edition; GI press 2007 9. Musculoskeletal Disorders and the Workplace; National Academy of Science 2001 10. Glenda L Key; Industrial Therapy, Mosby 1995
Additional References	Journals relevant to Course and Program Guidelines and Statements of bodies relevant to Course and Program

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Physiotherapy Clinical Practice in Occupational Health**
Course Code	**PTH7203**
Academic Year	Second
Semester	III
Number of Credits	12
Course Prerequisite	Students should have basic knowledge in applied anatomy, applied physiology and physiotherapeutic skills.
Course Synopsis	This module is designed to enable students to: Apply fundamental and advanced knowledge in therapeutic sciences. Demonstrate comprehensive assessment techniques and interpret findings. Formulate and prescribe specific treatment plan. Conduct a holistic and comprehensive treatment intervention safely and competently. Monitor and re-evaluate treatment plans. Use problem-solving principles and evidence-based practice in decision making of patient/client management. Identify the scope and limitations of professional practices, manage and refer appropriately. Communicate effectively in verbal and written forms with patients, their family/caregiver, peers, healthcare professionals and the stakeholders at large.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Analyse and apply the principles of physiotherapy evaluation and management in Occupational Health Conditions (C4, P5, A3)
CO2	Demonstrate fitness testing protocols and exercise prescription for workers from various occupational settings (C2, P5, A3)
CO3	Demonstrate and perform risk evaluation in various occupational settings(P5, A3)
CO4	Demonstrate assessment procedures and evidence based physiotherapy interventions and rehabilitation of injured workers in outpatient settings and adhere strictly to the principles of ethics during assessment and treatment (C2,P5,A3)
CO5	Analyze and apply evidence based practice in using physical agents in common occupational disorders/diseases (C4, P5, A3)

CO6	Apply outcome measures in the evaluation and management of occupational stress and hazards and errors of human information processing (C3,P5,A2)
CO7	Utilize health related information and display verbal and written communication with patients/ clients, caregivers, peers and health care professionals and ability to work as a team (C3, P5, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x	x						
CO2	x	x						
CO3	x	x						
CO4	x	x						
CO5	x					x		
CO6	x	x						
CO7			x		x			

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Evaluation of worker, work and workplace	1. Demonstrate health related fitness assessment (endurance, strength, flexibility and body composition) through various methods (C3, P4, A3) 2. Construct a structured evaluation protocol for evaluating occupational risk in various occupational groups; (C3, P4, A3) 3. Summarize, demonstrate and justify the assessment procedures (including exercise testing and musculoskeletal assessment, cardiovascular, neurological assessments), (C2, P4, A3) 4. Identify and interpret routine laboratory investigations (C3, P5) 5. Identify and interpret findings on X-rays, CT, MRI, and other common diagnostic imaging relevant to occupational health (C3, P5)	200
Unit 2		
Physiotherapy management in occupational health	1. Demonstrate sound clinical reasoning and decision making in choosing appropriate mode of intervention or developing treatment algorithms for various occupation related ailments (C3, P5, A3) 2. Analyse and apply evidence based practice in using physical agents in occupational health (C4, P5, A3)	268

Content	Competencies	Number of Hours
	3. Apply the guidelines for fitness testing and exercise prescription in workers (C3, P4, A3) 4. Discuss health related information with clients, caregivers, peers and health care professionals and displays ability to work as a team (C3, P5, A3) 5. Display ethical and professional behaviour (Autonomy, Beneficence and Justice) during (A4)	
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)							
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**					
Self-directed learning (SDL)	36	72					
Case Based Learning (CBL)	28	56					
Clinic	360	-					
Practical	28	56					
Assessment	16	32					
Total	**468**	**216**					
Assessment Methods							
Formative	**Summative**						
Case presentations	End Semester Exam (Practical)						
Clinical performance							
Mapping of Assessment with COs							
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**	**CO7**
Case Presentations	x	x	x	x	x	x	x
End Semester Exam	x	x	x	x	x	x	x
Feedback Process	Mid-Semester Feedback						
	End-Semester Feedback						
Main Reference	1. Ergonomic Guidelines for Manual Material Handling by National Institute for Occupational Safety and Health (NIOSH) and Centers for Disease Control and Prevention, 2007. 2. Sharp R. ABC of Occupational and Environmental Medicine. 3. Waldron HA. Occupational health practice. Butterworth-Heinemann; 2013 Oct 22. 4. Pheasant S. Bodyspace: Anthropometry, Ergonomics And The Design Of Work: Anthropometry, Ergonomics And The Design Of						

	Work. CRC Press; 2014 Apr 21. 5. Eastman Kodak Company. Kodak's ergonomic design for people at work. John Wiley & sons; 2004. 6. Bridger R. Introduction to ergonomics. Crc Press; 2008 Jun 26. 7. Shravan Kumar. Biomechanics in Ergonomics 2nd edition. CRC press 2007 8. Mark A Friend, James P Kohn. Fundamentals of occupational safety and Health; 4th edition; GI press 2007 9. Musculoskeletal Disorders and the Workplace; National Academy of Science 2001 10. Glenda L Key; Industrial Therapy, Mosby 1995
Additional References	Journals relevant to Course and Program Guidelines and Statements of bodies relevant to Course and Program

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Evidence Based Physiotherapy Practice in Occupational Health**
Course Code	**PTH7205**
Academic Year	Second
Semester	III
Number of Credits	02
Course Prerequisite	Student should have basic knowledge of research method and physiotherapy practice in occupational setup
Course Synopsis	The course will focus on the development of skill to search for evidence, appraise the available literature and apply the relevant evidence into clinical practice for the physiotherapy assessment and management of health disorders at workplace. Through this course, students will learn to summarise recent trends and developments in Occupational Health (including assessment and treatment) by reviewing the scientific literature of the last 5-10 years while emphasizing on landmark studies, high levels of evidence, on-going controversies, on-going studies, and the way forward.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Appraise the process of evidence based practice and implementation to clinical practice (C5)
CO2	Appraise the process of evidence-based practice in occupational setup (C5)
CO3	Appraise the process of evidence-based practice in lifestyle diseases (C5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1						x	x	
CO2	x					x		
CO3	x					x		

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Evidence based practice	1. Define evidence-based practice (EBP) (C1) 2. Explain the process of evidence-based practice (C4) 3. Construct a search strategy and appraise the available literature (C5)	**2**
Unit 2		
Evidence based Physiotherapy practice in occupational setup	1. Identify, appraise and summarize evidence through systematic searches of databases for the assessment and management of obstetric and gynecological diseases across life span (C5) 2. Recommend strategies for implementation of evidence based practice assessment and management strategies (C5)	**12**
Unit 3		
Evidence based Physiotherapy practice in lifestyle diseases	1. Identify, appraise and summarize evidence through systematic searches of databases for the assessment and management of lifestyle diseases (C5) 2. Recommend strategies for implementation of evidence based practice assessment and management strategies (C5)	**12**
	Total	**26**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	2	4
Seminar	24	48
Total	**26**	**52**

Assessment Methods	
Formative	**Summative**
Presentation	Sessional Exam (theory)

Mapping of Assessment with COs			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Sessional Examination	x	x	x
Assignments/Presentations	x	x	x

Feedback Process	Mid-Semester Feedback

Main Reference	1. Guide to Evidence Based Physical Therapy Practice by Dianne V Jewell; Jones and Bartlett Publishers (2008) 2. http://www.apta.org/EvidenceResearch/EBPTools/ 3. https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html 4. https://www.bmj.com/about-bmj/resources readers/publications/how-read-paper 5. Young JM, Solomon MJ. How to critically appraise an article. Nat Clin Pract Gastroenterol Hepatol. 2009;6(2):82-91 6. Related scientific publications including position statements, guidelines, landmark trials, systematic reviews and meta-analysis and recent trials

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Research Progress in Community Physiotherapy - II**
Course Code	**PTH7270**
Academic Year	Second
Semester	III
Number of Credits	03
Course Prerequisite	Students should have basic knowledge in research methodology
Course Synopsis	This course is developed to introduce the student to the art of scientific writing. Students will be facilitated to complete a required certification in scientific writing during this time and will be prepared to implement the knowledge from this course into writing their research project. This course will ensure that students continue to adhere to guidelines and good clinical practice recommendations related to enrolment, data collection and storage. The course will enhance the skill of the student to keep abreast with recent developments in the area of study through periodic literature updates.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Explain and components of scientific writing (C2, P2)
CO2	Demonstrate data collection procedures and document maintenance (P4, A4)
CO3	Perform literature search and update (P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x	x						
CO2			x		x			
CO3		x				x		

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Basics of scientific writing	1. Explain the components of scientific writing in dissertation and manuscript (C2, P2)	08

Content	Competencies	Number of Hours
Unit 2		
Data collection	1. Perform data collection according to the procedure approved by the approval committees (P5, A3)	39
Unit 3		
Document maintenance	1. Obtain, organize and store the documents relevant to the study e.g. Informed Consent document, Ethical approvals, data collection forms (P4, A4)	06
Unit 4		
Literature update	1. Perform literature search and update the review (P4)	25
	Total	**78**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	10	20
Self-directed learning (SDL)	48	-
Practical	20	-
Total	**78**	**20**

Assessment Methods	
Formative	**Summative**
Research Progress and Conduct	**-**

Mapping of Assessment with COs			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Assignments/Presentations		x	
Clinical/Practical Log Book/ Record Book	x		x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis –Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney 3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications

	by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

SEMESTER - IV

COURSE CODE	:	COURSE TITLE
PTH7212	:	Physiotherapy in Occupational Health and Ergonomics
PTH7214	:	Clinical Physiotherapy Practice in Occupational Health and Ergonomics
PTH7280	:	Research Project in Community Physiotherapy

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Physiotherapy in Occupational Health and Ergonomics**
Course Code	**PTH7212**
Academic Year	Second
Semester	IV
Number of Credits	03
Course Prerequisite	Basic knowledge of biomechanics, workplace design and disorders related to work place, its impact on disability and concepts of health and diseases in industry
Course Synopsis	The course will provide information about detailed evaluation of worker, work and workplace. It will facilitate the students in planning and delivering the management using conventional and modern treatment approaches using principles of ergonomics. This course will be delivered in the form of Lectures, Tutorials, demonstration during practical sessions, clinical teaching through case presentations/discussions, supervised clinical practice and self-directed and problem based learning. Theory and practical examination will be used to assess the students' transferable skills and the learning outcomes.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Apply fundamental and advanced knowledge in therapeutic sciences; related to occupational health and ergonomics (C3)
CO2	Appraise advance evidence based assessment techniques and interpretation of findings; related to occupational health and ergonomics (C5)
CO3	Develop evidence-based problem-solving principles and elaborate the use of evidence-based practice in decision making of patient/client management; related to occupational health and ergonomics (C3)
CO4	Explain the monitoring and re-evaluation of ergonomic approaches, as well as return to work programs.(C5)
CO5	Identify the scope and limitations of professional practice (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x	x					
CO2		x					x	
CO3					x		x	
CO4	x	x						
CO5				x				x

S.No.	Competencies	Number of Hours
Unit 1		
Work Related Musculoskeletal Disorders	1. Explain work related musculoskeletal disorders under the following (C5) • Definition • Etiopathogenesis • Risk factors • Evaluation and • Management	4
Unit 2		
Evaluation and Management in Occupational Health and Ergonomics	1. Explain pre-placement evaluation and management (C5) 2. Appraise post Injury evaluation (C5) 3. Explain the rehabilitation of injured worker (C5) 4. Explain ergonomics at workplace (C5)	5
Unit 3		
Ergonomics for Sedentary Worker	1. Evaluate ergonomic of sedentary workers under the following (C5) • Executive/ clerical including Visual Display Terminal Workplaces • Health Care Professionals	3
Unit 4		
Ergonomics for manual material handlers	1. Apply the principles of biomechanics for manual material handlers (C3) 2. Appraise Repetitive task evaluation (C5) 3. Explain Sustained task evaluation (C5) 4. Appraise Lifting evaluation (C5) 5. Explain the management strategies for jobs involving manual material handling (C5)	4
Unit 5		
Ergonomics in assistive technology	1. Appraise ergonomics in Assistive Technology under the following(C5) • Application of principles of anthropometry and biomechanics for measurement and design of assistive devices • Prescription of assistive devices	4
Unit 6		
Ergonomics in sports	1. Explain ergonomics in sports under (C5) • Application of principles of anthropometry and biomechanics for measurement and design of sports equipment , playing surfaces, and rules	5

S.No.	Competencies	Number of Hours
	and regulation	
Unit 7		
Ergonomics in special population	1. Appraise ergonomics in special population under the following (C5) • Explain ergonomics in special population under the following • For children • For elderly • For pregnant women	4
Unit 8		
Challenges to Inclusion in Workplace	1. Appraise the Challenges to Inclusion in Workplace under the following (C5) • Physically Challenged • Cognitively Challenged • Ageing • Illiterate • Pandemics-reorientation to workplace, work stress , effect on productivity	5
Unit 9		
Aging Workforce	1. Explain aging workforce under the following (C5) • Demographics of aging workforce • Problems encountered at workplace • Preventive and management strategies to implement at workplace	5
	Total	**39**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	26
Seminar	8	16
Small group discussion (SGD)	12	24
Problem Based Learning (PBL)	2	4
Case Based Learning (CBL)	4	8
Total	**39**	**78**
Assessment Methods		
Formative	**Summative**	
Presentations	Mid Semester/Sessional Exam (Theory)	
	End Semester Exam (Theory)	

Mapping of Assessment with COs						
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester / Sessional Examination 1		x	x			
Presentations		x	x	x	x	x
End Semester Exam		x	x	x	x	x
Feedback Process	Mid-Semester Feedback					
	End-Semester Feedback					
Main References	1. Ergonomic Guidelines for Manual Material Handling by National Institute for Occupational Safety and Health (NIOSH) and Centers for Disease Control and Prevention, 2007. 2. Sharp R. ABC of Occupational and Environmental Medicine. 3. Waldron HA. Occupational health practice. Butterworth-Heinemann; 2013 Oct 22. 4. Pheasant S. Bodyspace: Anthropometry, Ergonomics And The Design Of Work: Anthropometry, Ergonomics And The Design Of Work. CRC Press; 2014 Apr 21. 5. Eastman Kodak Company. Kodak's ergonomic design for people at work. John Wiley & sons; 2004. 6. Bridger R. Introduction to ergonomics. CRC Press; 2008 Jun 26. 7. Mark A Friend, James P Kohn. Fundamentals of occupational safety and Health; 4th edition; GI press 2007 8. Shrawan Kumar. Biomechanics in Ergonomics 2nd edition. CRC press 2007 9. Musculoskeletal Disorders and the Workplace; National Academy of Science 2001 10. Glenda L Key; Industrial Therapy, Mosby 1995 11. Theresa Stack; Occupational Ergonomics, Wiley 2016 12. Karen Jacobs; Ergonomics for Therapists; Mosby 2008					
Additional References	Journals Guidelines Statements of bodies relevant to Course and Program					

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Clinical Physiotherapy Practice in Occupational Health and Ergonomics**
Course Code	**PTH7214**
Academic Year	Second
Semester	IV
Number of Credits	12
Course Prerequisite	Students should have basic knowledge in applied anatomy, applied physiology and physiotherapeutic skills.
Course Synopsis	This module is designed to: Apply fundamental and advanced knowledge in therapeutic sciences. Demonstrate comprehensive assessment techniques and interpret findings. Formulate and prescribe specific treatment plan. Conduct a holistic and comprehensive treatment intervention safely and competently. Monitor and re-evaluate treatment plans. Use problem-solving principles and evidence-based practice in decision making of patient/client management. Identify the scope and limitations of professional practices, manage and refer appropriately. Communicate effectively in verbal and written forms with patients, their family/caregiver, peers, healthcare professionals and the stakeholders at large.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Plan and demonstrate a detailed evidence based Physiotherapy assessment and intervention program following medical or surgical management of work-related musculoskeletal disorders (C3, P5, A3)
CO2	Demonstrate exercise prescription for generalized fitness and conditioning in various occupational settings (P5,A3)
CO3	Explain the role of Physiotherapy and pain coping techniques post occupational injuries (C5,P5,A3)
CO4	Evaluate and plan a detailed evidence based Physiotherapy intervention program for return to work in various occupational settings(C5,P5,A3)
CO5	Demonstrate the evaluation of worker, work and work site from Ergonomic perspective (C3, P5, A3)

CO6	Develop or select and apply an appropriate functional capacity evaluation protocol (C3,P5,A2)
CO7	Discuss health related information and display verbal and written communication with patients/ clients, caregivers, peers and health care professionals and ability to work as a team (C3, P5, A3)
CO8	Practices ethical principles during assessment and treatment (A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x	x						
CO2	x	x						
CO3	x	x						
CO4	x	x						
CO5	x	x						
CO6	x	x						
CO7			x		x			
CO8				x	x			

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Evaluation in Occupational Health and Ergonomics	1. Plan and execute evidence based Physiotherapy assessment in Occupational Health issues (C3, P5, A3) 2. Demonstrate the use validated of outcome tools (P5, A3) 3. Demonstrate the skill to conduct, and interpret the findings of multi-level, evaluation of work, workplace and work environment (P5, A3)	**224**
Unit 2		
Interventions in Occupational Health and Ergonomics	1. Develop evidence based intervention plan for injury prevention and promoting wellness in the workplace (C3, P5, A3) 2. Develop and execute evidence based treatment regimen including generalized conditioning for structural and functional restoration post WRMSD (C3, P5, A3) 3. Demonstrate the ability to Develop and implement a work conditioning/work hardening program as a part of a rehabilitation team (P5, A3) 4. Demonstrate skills in designing and	**244**

Content	Competencies	Number of Hours
	redesigning basic tools and interfaces in a cost effective manner using locally available resources (P5, A3) 5. Demonstrate evidence based ergonomic intervention/ advices for injury prevention as well as return to work (P5, A3)	
	Total	**468**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Self-directed learning (SDL)	36	72
Case Based Learning (CBL)	28	56
Clinic	360	-
Practical	28	56
Assessment	16	32
Total	**468**	**216**

Assessment Methods	
Formative	**Summative**
Case presentations	End Semester Exam (Practical)
Clinical performance	

Mapping of Assessment with COs								
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**	**CO7**	**CO8**
Case presentations	x	x	x	x	x	x	x	x
Clinical performance	x	x	x	x	x	x	x	x
End Semester Exam	x	x	x	x	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Ergonomic Guidelines for Manual Material Handling by National Institute for Occupational Safety and Health (NIOSH) and Centers for Disease Control and Prevention, 2007. 2. Sharp R. ABC of Occupational and Environmental Medicine. 3. Waldron HA. Occupational health practice. Butterworth-Heinemann; 2013 Oct 22. 4. Pheasant S. Bodyspace: Anthropometry, Ergonomics And The Design Of Work: Anthropometry, Ergonomics And The Design Of Work. CRC Press; 2014 Apr 21. 5. Eastman Kodak Company. Kodak's ergonomic design

	for people at work. John Wiley & sons; 2004. 6. Bridger R. Introduction to ergonomics. CRC Press; 2008 Jun 26. 7. Mark A Friend, James P Kohn. Fundamentals of occupational safety and Health; 4th edition; GI press 2007 8. Shrawan Kumar. Biomechanics in Ergonomics 2nd edition. CRC press 2007 9. Musculoskeletal Disorders and the Workplace; National Academy of Science 2001 10. Glenda L Key; Industrial Therapy, Mosby 1995 11. Theresa Stack; Occupational Ergonomics, Wiley 2016 12. Karen Jacobs; Ergonomics for Therapists; Mosby 2008
Additional References	Journals Guidelines Statements of bodies relevant to Course and Program

Manipal College of Health Professions	
Name of the Department	Physiotherapy
Name of the Program	Master of Physiotherapy (Community Physiotherapy)
Course Title	**Research Project in Community Physiotherapy**
Course Code	**PTH7280**
Academic Year	Second
Semester	IV
Number of Credits	05
Course Prerequisite	Students should have basic knowledge in research methodology
Course Synopsis	This course is designed to facilitate the student to apply knowledge of Biostatistics to the data collected through data entry, data analysis and interpretation. The course will develop skills in the use of essential statistical software for the management and analysis of data. The course will also facilitate the application of knowledge of scientific writing into the final submission of the research project. The course will promote the student's ability to justify the study and its findings through both written and spoken methods. It will also sensitize the student to the process of developing a manuscript to a journal. The course will also expose the student to the guidelines on completion of a research project as per prevailing regulatory and institutional norms.

Course Outcomes (COs)
At the end of the course student shall be able to**:**

CO1	Perform data analysis and interpret results (P4)
CO2	Prepare and submit dissertation document and manuscript (P4)
CO3	Present and defend dissertation (P4,A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x	x						
CO2						x	x	
CO3		x	x					

Course Content and Outcomes

Content	Competencies	Number of Hours
Unit 1		
Data compilation	1. Perform data entry and prepare for analysis in statistical software (P4)	26

Content	Competencies	Number of Hours
Unit 2		
Statistical analysis	1. Perform appropriate statistical tests and interprets the results (P4) is the student expected to do the analysis	13
Unit 3		
Dissertation and Manuscript writing	1. Prepare the dissertation document according to institutional guidelines (P4) 2. Prepares manuscript for submission to an indexed journal (P4)	52
Unit 4		
Dissertation presentation	1. Present and defend the dissertation to the relevant scientific committee(s) (P4, A3)	13
Unit 5		
Closure report	1. Complete requirements regarding closure of research project (P4)	26
	Total	**130**

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small Group Discussion (SGD)	16	32
Self-directed learning (SDL)	80	-
Practical	10	-
Assessment	24	48
Total	**130**	**80**

Assessment Methods	
Formative	**Summative**
Research Progress and Conduct	Presentation and Viva

Mapping of Assessment with COs			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Quiz / Viva			x
Assignments/Presentations		x	
Clinical/Practical Log Book/ Record Book	x		
End Semester Exam- Viva			x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference	1. Research for Physiotherapists: Project Design and Analysis –Caroline Hicks. 2. Foundations of Clinical Research by Leslie Gross Portney

	3. Tests, Measurements and Research in Behavioural Sciences by A K Singh 4. Physical Therapy Research: Principles and Applications by Elizabeth Domholdt 5. Rehabilitation Research - E-Book: Principles and Applications by Russell Carter, Jay Lubinsky, et al. 6. Essentials of Research Methodology for all Physiotherapy and Allied Health Sciences Students by Ramalingam Thangamani A NOTE: this is not an exhaustive list of references and there will be other textbooks and articles which should be referenced as well

7. Program Outcomes (POs) and Course Outcomes (COs) Mapping

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
I	**ABS6101**	Advanced Biostatistics & Research Methodology	4	CO1 CO2 CO3 CO4 CO5					CO2	CO4	
I	**PTH6001**	Principles of Physiotherapy Practice	3	CO1 CO2 CO3 CO4 CO5					CO4 CO5		CO1
I	**PTH6003**	Clinical Practice in Physiotherapy	12		CO1 CO2 CO3 CO4		CO1 CO2 CO4		CO3		
I	**PTH6270**	Research Proposal in Community Physiotherapy	2	CO1	CO1 CO2			CO2			
II	**EPG6201**	Ethics and Pedagogy	2	CO1 CO2 CO3 CO4 CO5	CO4		CO1 CO2 CO3 CO5				
II	**PTH6202**	Foundations of Physiotherapy in Community	3	CO1 CO2 CO3 CO4 CO5 CO6		CO1	CO6		CO3		
II	**PTH6204**	Physiotherapy Clinical Practice in Community	12	CO1 CO2 CO3	CO1 CO2 CO3	CO4	CO5	CO4 CO5			
II	**PTH6280**	Research Progress in Community Physiotherapy	2		CO2	CO2	CO1		CO2		
III	**PTH7201**	Physiotherapy in General Occupational Health	3	CO1 CO2 CO3 CO4 CO5	CO3	CO1	CO5	CO3 CO4	CO4	CO2 CO3	
III	**PTH7203**	Physiotherapy	12	CO1	CO1	CO7		CO7	CO5		

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
		Clinical Practice in Occupational Health		CO2 CO3 CO4 CO5 CO6	CO2 CO3 CO4 CO6						
III	**PTH7205**	Evidence Based Physiotherapy Practice in Occupational Health	2	CO2 CO3					CO1 CO2 CO3	CO1	
III	**PTH7270**	Research Progress in Community Physiotherapy -II	3	CO1	CO1 CO3	CO2		CO2	CO3		
IV	**PTH7212**	Physiotherapy in Occupational Health and Ergonomics	3	CO4	CO1 CO2 CO4	CO1	CO5	CO3		CO2 CO3	CO5
IV	**PTH7214**	Clinical Physiotherapy Practice in Occupational Health and Ergonomics	12	CO1 CO2 CO3 CO4 CO5 CO6	CO1 CO2 CO3 CO4 CO5 CO6	CO7	CO8	CO7 CO8			
IV	**PTH7280**	Research Project in Community Physiotherapy	5	CO1	CO1 CO3	CO3			CO2	CO2	

8. MCHP PG PROGRAM REGULATION

1. Program Structure

1.1. The program offers a semester based credit system (with few programs offering specialization too).

1.2. An academic year consists of two semesters – Odd semester (July - December) and Even semester (January – June)

1.3 Each semester shall extend over a minimum period of 13 weeks of academic delivery excluding examination days, semester breaks, declared holidays and non-academic events.

1.4 Medium of instruction shall be in English

2 Credit Distribution

2.1 Each semester has minimum 13 weeks of contact sessions. One credit = 13 hours. The credit distribution hours for Lecture, Tutorial, Practical, Clinics and Project are as follows:

Lecture (L)	:	1 Hour /week = 1 credit
Tutorial (T)	:	1 Hour /week = 1 credit
Practical/Project (P/PR)	:	2 Hours/week = 1 credit
Clinics (CL)	:	3 Hours/week = 1 credit

2.2 A semester has courses structured as theory, practical, and clinics. Each course is of minimum 2 credits. The maximum credits for theory course is 4; theory and practical combined is 5.

3 Attendance

3.1 Minimum attendance requirements for each course is:

i. Theory : 85 %

ii. Clinics / Practical : 90 %

3.1 As per the directives of MAHE, there will be no consideration for leave on medical grounds. The student will have to adjust the same in the minimum prescribed attendance.

3.2 Students requiring **leave** during the academic session should apply for the same through a formal application to the Head of Department through their respective Class In-charge/ Coordinator. The leave will be considered as absent and reflected in their attendance requirements.

3.3 No leverage will be given by the department for any attendance shortage.

3.4 Students, Parents/ guardians can access the attendance status online periodically. Separate intimation regarding attendance status would not be sent to parents/students.

3.5 Students having attendance shortage in any course (theory & practical) will not be permitted to appear for the End-semester exam (ESE) of the respective course.

4 Examination

4.1 Exams are in two forms – Sessional examination (conducted as a part of internal assessment) and End semester examination.

4.2 The final evaluation for each course shall be based on Internal Assessment Components (**IAC**) and the End-semester examinations **(ESE)** based on the weightage (as indicated in clause 5.1) given for respective courses.

4.3 IAC shall be done on the basis of a continuous evaluation after assessing the performance of the student in mid semester exam, class participation, assignments, seminars or any other component as applicable to a course.

4.4 All the ESE for the odd semesters **(regular ESE)** will be conducted in November-December. All the ESE for the even semesters **(regular ESE)** will be conducted in May-June.

4.5 For those whose failed to clear any course during regular ESE, a **supplementary/make up exam** is conducted 2 weeks immediately after the ESE result declaration to enable him / her to earn those lost credits. A nominal fee as per MAHE rules will be applicable during this examination.

4.6 For core courses, the duration of ESE for a 2 credit course would be 2 hours (50 marks) and for a course with 3 or more credits, 3 hours (100 marks). For program elective course, the exam duration is 3 hours (100 marks).

5. Weightage for Internal Assessment Component (IAC) and End Semester Exam (ESE)

5.1 Any one or a combination of marks distribution criteria applicable to a course.

IAC Weightage (%)	ESE Weightage (%)
30	70
50	50
100	Nil
Nil	100

6. Minimum Requirements for Pass

6.1. Pass in a course will be reflected as grades. No candidate shall be declared to have passed in any course unless he/she obtains not less than **"E" grade**

6.2. For all courses (core / non-core), candidate should obtain a minimum of 50% (ESE) to be declared as pass.

6.3 When a student appears for **supplementary examination**, the maximum grade awarded is "C" grade or below irrespective of their performance.

6.4. For students who fail to secure a minimum of 'E' grade for a course, an **improvement examination** is conducted to improve their IAC marks. The student can appear for these examination along with the subsequent batches' mid semester / sessional exams. The marks obtained in other components of IAC can be carried forward without reassessment. A nominal fee is charged as per MAHE for per course of improvement in IAC.

7. Calculation of GPA and CGPA

7.1. Evaluation and Grading (**Relative Grading**) of students shall be based on GPA (Grade Point Average) & CGPA (Cumulative Grade Point Average).

7.2. The overall performance of a student in each semester is indicated by the Grade Point Average (GPA). The overall performance of the student for the entire program is indicated by the Cumulative Grade Point Average (CGPA).

7.3. A ten (10) point grading system **(credit value)** is used for awarding a letter grade in each course.

Letter Grade	A+	A	B	C	D	E	F/I/DT
Grade points	10	9	8	7	6	5	0

DT – Detained/Attendance shortage, I – Incomplete

7.4 Calculation of GPA & CGPA: An example is provided

Course code	Course	Credits (a)	Grade obtained by the student	Credit value (b)	Grade Points (a x b)
AHS 101	Course - 1	4	B	8	32
AHS 103	Course - 2	4	B	8	32
AHS 105	Course - 3	3	A+	10	30
AHS 107	Course - 4	4	C	7	28
AHS 109	Course - 5	5	A	9	45
TOTAL		**20**	**-**	**-**	**167**

1st Semester GPA = Total grade points / total credits

167/20 = **8.35**

Suppose in **2nd semester GPA** = **7** with respective course credit 25

$$\text{Then, 1st Year CGPA} = \frac{(8.35 \times 20) + (7 \times 25)}{20 + 25} = 7.6$$

8. Progression Criteria to higher semesters

8.1 There is no separate criteria / credits required in order to be promoted to the next academic year.

8.2 However, in order to be eligible to appear for fourth semester (Theory / practical / project submission), the student should have cleared all his previous semesters (i.e. first, second and third).

8.3 The student must complete all the course work requirements by a **maximum of double the program duration**. For e.g. 2 years' program, all the academic course work needs to be completed within 4 years. Failure to do so will result in exit from the program.

9. Semester Break

9.1 Students will have a short semester break following their odd and even end-semester examinations.

10. Project / Dissertation

10.1 Project / Dissertation will carry credits and marks (as applicable to each program)

10.2 Final copy of dissertation **(e-copy)** to be submitted by end of March for plagiarism check and submission to University. A **single hardcopy (student copy)** of the dissertation to be prepared and presented before the external examiner during the viva-voce.

10.3 **Manuscript** format of the thesis also to be submitted to the respective guides / dept.

11. Award of Degree

11.1 Degree is awarded only on **successful completion of entire coursework**.

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**