



**MAHARASHTRA UNIVERSITY OF HEALTH
SCIENCES, NASHIK**

SYLLABUS FOR

BACHELOR OF PHYSIOTHERAPY (B.P.Th.)

DEGREE COURSE

This syllabus is applicable from the academic year 2012-2013

INDEX

| Sr. No. | Topics | Page No. |
|----------------|------------------------------|-----------------|
| 1. | Professional Definition | 1 |
| 2. | Preamble | 3 |
| 3. | Framework of the curriculum | 9 |
| 4. | Subjects Schedule: year wise | 13 |
| 5. | I B.P.Th. | 17 |
| 6. | II B.P.Th. | 53 |
| 7. | III B.P.Th. | 89 |
| 8. | IV B.P.Th. | 133 |

PHYSIOTHERAPY

DEFINITION:

`**Physiotherapy**` is a branch of modern medical science which includes examination, assessment, interpretation, physical diagnosis, planning and execution of treatment and advice to any person for the purpose of preventing, correcting, alleviating and limiting dysfunction, acute and chronic bodily malfunction including life saving measures via chest physiotherapy in the intensive care unit, curing physical disorders or disability, promoting physical fitness, facilitating healing and pain relief and treatment of physical and psychological disorders through modulating psychological and physical response using physical agents, activities and devices including exercise, mobilization, manipulations, therapeutic ultrasound, electrical and thermal agents and electrotherapy for diagnosis, treatment and prevention.

(Definition as per the Maharashtra State Council for Occupational therapy & Physiotherapy, 2004)

`**Physiotherapist**` is a qualified professional who has acquired all the above mentioned knowledge and skills for entry into practice after being awarded a bachelor degree in the subject of ” Physiotherapy” from a recognised institute affiliated to the University conducting a fulltime course not less than four years and six months of internship.

PREAMBLE

Physiotherapy or Physical Therapy (P.T.) is a **Movement Science** with an established theoretical and scientific base and widespread clinical applications in the **Prevention, Restoration & Rehabilitation, Maintenance and Promotion of optimal physical function**. Physiotherapists **diagnose and manage movement dysfunction** and enhance physical and functional abilities. This physical dysfunction may be the sequelae of involvement of any of the systems like Musculoskeletal, Neurological, Cardiovascular, Respiratory or other body systems.

These practitioners contribute to society and the profession through practice, teaching, administration, and the discovery and application of new knowledge about physiotherapy experiences of sufficient excellence and breadth by research to allow the acquisition and application of essential knowledge, skills, and behaviors as applied to the practice of physiotherapy.

Learning experiences are provided under the guidance and supervision of competent faculty, in both, classroom as well as in clinic. The designed curriculum will prepare the entry-to-practice physiotherapist (PT), to be an autonomous, effective, safe and compassionate professional, who practices collaboratively in a variety of healthcare set ups such as neonatal to geriatric, from critical care to community fitness to sports training and is responsive to the current and future needs of the health care system.

VISION: To create a best possible environment to prepare physiotherapist who shall lead to serve & heal in a variety of healthcare and social settings to provide best quality of life to an individual.

MISSION: To graduate knowledgeable, service-oriented, self-assured, adaptable, reflective practitioners who, by virtue of critical and integrative thinking along with clinical reasoning, lifelong learning, and ethical values, render independent judgments concerning patient /person needs those are supported by evidence; promote the health of the patient or person; and enhance the professional, contextual, and collaborative foundations for physiotherapy practice.

ESSENTIAL REQUIREMENTS

The following “essential requirements” specify those attributes that the faculty consider necessary for completing the professional education enabling each graduate to subsequently enter clinical practice. The purpose of this curriculum is to delineate the cognitive, affective and psychomotor skills deemed essential for completion of this program and to perform as a competent physiotherapist who will be able to evaluate, plan & execute physiotherapy treatment independently.

COGNITIVE LEARNING SKILLS: The student must demonstrate the ability to receive, interpret, remember, reproduce and use information in the cognitive, psychomotor, and affective domains of learning to solve problems, evaluate work, and generate new ways of processing or categorizing similar information listed in course objectives.

PSYCHOMOTOR SKILLS: The student must demonstrate the following skills.

1. Locomotion ability:

Get to lecture, laboratory and clinical locations, and move within rooms as needed for changing groups, partners and work stations. Move quickly in an emergency situation to protect the patient (e.g. from falling).

2. Manual tasks:

- a. Maneuver another person’s body parts to effectively perform evaluation techniques. Manipulate common tools used for screening tests of the cranial nerves, sensation, range of motion, blood pressure, e.g., cotton balls, safety pins, goniometers, Q-tips, sphygmomanometer. Safely and effectively guide, facilitate, inhibit, and resist movement and motor patterns through physical facilitation and inhibition techniques (including ability to give timely urgent verbal feedback).
- b. Manipulate another person’s body in transfers, gait, positioning, exercise, and mobilization techniques. Manipulate evaluation and treatment equipment safely and accurately apply to patients. Manipulate bolsters, pillows, plinths, mats, gait assistive

devices, and other supports or chairs to aid in positioning, moving, or treating a patient effectively.

- c. Competently perform and supervise cardiopulmonary resuscitation

3. Fine motor/hand skills:

- a. Legibly record thoughts for written assignments (including diagrams) and tests. Document evaluations, patient care notes, referrals, etc. in standard medical charts in hospital/clinical settings in a timely manner and consistent with the acceptable norms of clinical settings.
- b. Safely apply and adjust the dials or controls of therapeutic modalities.
- c. Safely and effectively position hands and apply mobilization and therapeutic techniques.

4. Visual acuity to:

- a. Read written and illustrated material in the English language, in the form of lecture handouts, textbooks, literature and patient's chart.
- b. Observe active demonstrations in the classroom.
- c. Visualize training videos, projected slides/overheads, X-ray pictures, and notes written on a blackboard/whiteboard.
- d. Receive visual information from patients, e.g., movement, posture, body mechanics, and gait necessary for comparison to normal standards for purposes of evaluation of movement dysfunctions.
- e. Receive visual information from treatment environment, e.g., dials on modalities and monitors, assistive devices, furniture, flooring, structures, etc.
- f. Receive visual clues as to the patient's tolerance of the intervention procedures. These may include facial grimaces, muscle twitching, withdrawal etc.

5. Auditory acuity to:

- a. Hear lectures and discussion in an academic and clinical setting.
- b. Distinguish between normal and abnormal breathing, lung and heart sounds using a stethoscope.

6. Communication:

- a. Effectively communicate information and safety concerns with other students, teachers, patients, peers, staff and personnel by asking questions, giving information, explaining conditions and procedures, or teaching home programs. These all need to be done in a timely manner and within the acceptable norms of academic and clinical settings.
- b. Receive and interpret written communication in both academic and clinical settings in a timely manner.
- c. Receive and send verbal communication in life threatening situations in a timely manner within the acceptable norms of clinical settings.
- d. Physiotherapy education presents exceptional challenges in the volume and breadth of required reading and the necessity to impart information to others. Students must be able to communicate quickly, effectively and efficiently in oral and written English with all members of the health care team.

7. Self care:

Maintain general good health and self care in order not to jeopardize the health and safety of self and individuals with whom one interacts in the academic and clinical settings.

AFFECTIVE LEARNING SKILLS: The student must be able to:

1. Demonstrate respect to all people, including students, teachers, patients and medical personnel, without showing bias or preference on the grounds of age, race, gender, sexual preference, disease, mental status, lifestyle, opinions or personal values.
2. Demonstrate appropriate affective behaviors and mental attitudes in order not to jeopardize the emotional, physical, mental, and behavioral safety of patients and other individuals with whom one interacts in the academic and clinical settings and to be in compliance with the ethical standards of the profession.
3. Acknowledge and respect individual values and opinions in order to foster harmonious working relationships with colleagues, peers, and patients.

PROFESSIONAL DRESS CODE STANDARDS:

It is important to portray a professional image. A clinician with inappropriate dress, grooming or conduct can damage the patient's confidence in the quality of their care, sometimes even resulting in a delay in the restoration of health.

Haircuts, hairstyling, and personal grooming need to be neat, conservative and inconspicuous. Grooming and style should be practical and allow one's duties to be performed without embarrassment or inconvenience

DRESS:

Modest casual wear is appropriate on campus and in class.

Clinical /Lab Dress: Aprons for all clinical assignments, any class that is held in a clinical facility and in any class where patients are present.

FRAMEWORK OF THE CURRICULUM

COURSE DURATION: Four years and Six months of Internship.

I B.P.Th.

- a. Deals with the basic foundation in medical as well as physiotherapy subjects. The foundation of human body structure & function & energy utilization is achieved by studying the subjects Human Anatomy, Physiology, and Biochemistry.
- b. Students knowledge of Physics i.e. – Mechanics, Electricity, Water , Sound & Light is recalled to apply it on human body in understanding movements and the various physiotherapeutic modalities under the subject of Fundamentals of Electrotherapy & Fundamentals of Kinesiology & Kinesiotherapy.

II B.P.Th.

- a. Deals with understanding of altered physiology by studying pathology & Microbiology.
- b. The students get oriented to various Pharmacotherapeutic agents used along with their effects by studying Pharmacology.
- c. The students will study about normal and altered human mind & behavior by studying Psychology & Psychiatry. They will also learn skills required for effective communication with the patients and care givers.
- d. Students will acquire the knowledge of Biomechanics as applicable to human body in the context of Kinetics & kinematics of Joints, Movements & Daily activities under subject of Kinesiology and shall acquire knowledge and learn various physiotherapeutic skills on models in subject of Kinesiotherapy.
- e. In the subject of Electrotherapeutics, students will acquire knowledge and learn application & uses of various electrotherapeutic modalities on models.

III B.P.Th.

- a. Students acquire knowledge of all the clinical subjects like Orthopaedics, General Surgery, Medicine, Neurology, Paediatrics, Dermatology & Gynecology & Obstetrics, Community Medicine and Sociology.
- b. Students will acquire knowledge about the principles of International Classification of Functioning (I.C.F.) and its applicability in context to movement dysfunctions.
- c. Students will learn the physiotherapeutic evaluation skills including electrodiagnosis on patients to arrive at a Functional/ Physical Diagnosis in Neuromuscular, Cardiovascular & Respiratory dysfunction. They will also acquire knowledge of various specialized manual therapy and neurodevelopmental techniques and practice these skills on models under the subject of functional diagnosis and physiotherapeutic skills.

IV B.P.Th.

- a. Students will revise, recall and integrate the knowledge of previous years to evaluate, functionally diagnose, plan and execute short and long term management of various musculoskeletal, neurological & cardiovascular- respiratory dysfunctions in hospital and community settings.
- b. Students also acquire knowledge pertaining to health promotion & disease prevention throughout lifespan in the community. They will also be able to analyse, prevent and treat problems associated with various industries in community physiotherapy.
- c. Students will also acquire knowledge about biomechanical principles & application of variety of aids & appliances used for ambulation, protection & prevention by studying Bioengineering.
- d. Professional Practice and ethics as a subject will be studied in continuum from first year, so students will acquire the knowledge of ethical code of professional practice, as well as its moral & legal aspects. The principles of Hospital Administration, Management & Marketing will be studied separately.
- e. Students will also acquire knowledge of Research Methodology and Biostatistics and apply the knowledge in project work in community physiotherapy.

INTERNSHIP

- a. A period of 6 months (26 weeks) of continuous clinical practice to enhance the clinical reasoning, judgment, programme planning, intervention, evaluation of intervention, follow up and referral skills of all the dysfunctions and impairments learnt throughout the curriculum of four years.
- b. Those candidates declared to have passed the final year examination in all subjects shall be eligible for internship.
- c. Internship shall be done in a teaching hospital recognized by the University. A degree certificate shall be awarded ONLY on successful completion of six months of internship.
- d. The Internship will be rotatory and shall cover clinical branches concerned with Physiotherapy such as Orthopaedics, Cardiovascular & Respiratory including ICU, Neurology & Neurosurgery Paediatrics, General Medicine, Surgery, Obstetrics and Gynecology both inpatient and outpatient services.
- e. Successful Completion: The student must maintain a logbook. On completion of each posting, the same will have to be certified by the faculty in charge of the posting for both attendance as well as work done. On completion of all the postings, the duly completed logbook will be submitted to the Principal/Head of program to be considered as having successfully completed the internship program.

SUBJECTS SCHEDULE

I B. P.Th.

TRANSCRIPT HOURS - 1400

| Sr. No. | SUBJECTS | Teaching Hrs |
|---------|--|--------------|
| | PROFESSIONAL PRACTICE | |
| 1 | Professional practice & Ethics | 015 |
| | BASIC MEDICAL SCIENCES | |
| 2 | Human Anatomy | 210 |
| 3 | Human Physiology | 200 |
| 4 | Biochemistry | 050 |
| | PHYSIOTHERAPY | |
| 5 | Fundamentals of Kinesiology & Kinesiotherapy | 250 |
| 6 | Fundamentals of Electrotherapy | 200 |
| 7 | Seminar | 060 |
| 8 | Observational clinical practice | 415 |
| | TOTAL | 1400 |

II B. P.Th.**TRANSCRIPT HOURS- 1400**

| Sr. No. | SUBJECTS | Teaching Hrs |
|----------------|---------------------------------|---------------------|
| | PROFESSIONAL PRACTICE | |
| 1 | Professional practice & Ethics | 015 |
| | MEDICAL SCIENCES | |
| 2 | Pathology | 050 |
| 3 | Microbiology | 035 |
| 4 | Pharmacology | 050 |
| 5 | Psychiatry including Psychology | 050 |
| | PHYSIOTHERAPY | |
| 6 | Kinesiology | 080 |
| 7 | Kinesiotherapy | 240 |
| 8 | Electrotherapy | 300 |
| 9 | Seminar | 090 |
| 10 | Supervised clinical practice | 490 |
| | TOTAL | 1400 |

III B. P.Th.

TRANSCRIPT HOURS- 1400

| Sr. No. | SUBJECTS | Teaching Hrs |
|----------------|---|---------------------|
| | PROFESSIONAL PRACTICE | |
| 1 | Professional practice & Ethics | 015 |
| | MEDICAL SCIENCES | |
| 2 | Surgery-I | 055 |
| 3 | Surgery-II | 060 |
| 4 | Medicine-I | 055 |
| 5 | Medicine-II | 065 |
| 6 | Community Medicine & Sociology | 060 |
| 7 | Obstetrics & Gynaecology | 030 |
| 8 | Dermatology | 010 |
| | PHYSIOTHERAPY | |
| 9 | Functional Diagnosis & Physiotherapeutic Skills | 460 |
| 10 | Seminar (including I.C.F.) | 090 |
| 11 | Supervised clinical practice | 500 |
| | TOTAL | 1400 |

IV B.P.Th.

TRANSCRIPT HOURS -1465

| Sr. No. | SUBJECTS | Teaching Hrs |
|----------------|---|---------------------|
| | PROFESSIONAL PRACTICE | |
| 1 | Professional practice & Ethics | 015 |
| 2 | Administration, Management & Marketing | 020 |
| | PHYSIOTHERAPY | |
| 3 | Musculoskeletal Physiotherapy | 200 |
| 4 | Neuro Physiotherapy | 200 |
| 5 | Cardiovascular Respiratory Physiotherapy (Including Critical Care) | 200 |
| 6 | Community Physiotherapy | 200 |
| 7 | Principles of Bio-engineering | 030 |
| 8 | Research Methodology & Biostatistics | 040 |
| 9 | Seminar (including I.C.F.) | 060 |
| 10 | Supervised clinical practice | 500 |
| | TOTAL | 1465 |