INSTITUTE	**FACULTY OF PHYSIOTHERAPY**
PROGRAM	**BACHELOR OF PHYSIOTHERAPY**
SEMESTER	**1**
COURSE TITLE	**HUMAN ANATOMY**
COURSE CODE	**BPT-101**
COURSE CREDITS	**12**

Objective:

1. Describe common anatomical terms and the basic embryological development of body structures.
2. Discuss the classifications, structure, and functions of bones, including mechanisms of displacement, common fracture sites, and joint structure with related movements.
3. Identify skeletal muscles and muscle groups, including their origin, insertion, nerve supply, actions, and effects of nerve injury.
4. Describe the components and functional organization of major organ systems based on anatomical regions, including thorax, abdomen, pelvis, perineum, and extremities.
5. Recognize anatomical structures and describe topographic anatomy including borders, fascial planes, ligaments, tendons, cartilages, and clinically relevant surface landmarks
6. Describe the central and peripheral nervous system including cerebrum, brainstem, cerebellum, spinal cord, sensory-motor pathways, autonomic system, and identify common lesions or malformations

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

1. Describe common anatomical terms and the basic embryological development of body structures.
2. Discuss the classifications, structure, and functions of bones, including mechanisms of displacement, common fracture sites, and joint structure with related movements.
3. Identify skeletal muscles and muscle groups, including their origin, insertion, nerve supply, actions, and effects of nerve injury.
4. Describe the components and functional organization of major organ systems based on anatomical regions, including thorax, abdomen, pelvis, perineum, and extremities.
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6. Describe the central and peripheral nervous system including cerebrum, brainstem, cerebellum, spinal cord, sensory-motor pathways, autonomic system, and identify common lesions or malformations

Pre-requisite of course:A basic understanding of human biology—bones, muscles, and organs—is often a fundamental prerequisite.

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Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
180	0	120	50	30	20	50	50

Contents : Unit	Topics	Contact Hours
1	**General Anatomy** Define Scope of Anatomy, Discuss the Anatomical Position and anatomical Terminology common anatomical terminologies (Groove, tuberosity, trochanters etc.) , Identify Anatomical positions of body, axes, and planes, Discuss Composition, Functions, Classification based on Morphology,, Describe Development and Structure; Formation / Development of Bones esp. Long Bones; Parts of Long Bones , Discuss the Blood Supply of Bones, Describe Types and Features of cartilage, Define and state types of joints. , Discuss the features of fibrous, Cartilaginous & Synovial joints, sub-types of synovial joints , Explain the movements of joints, factors permitting and limiting these movement, Discuss blood supply of joints; applied aspects., Discuss Comparative Feature of Skeletal, Smooth and Cardiac Muscles, parts & structure of Skeletal Muscle including fascicular architecture , Describe Blood supply and nerve supply of Skeletal Muscle; Motor Unit, Discuss the Types of Skeletal Muscles based on their action i.e. Agonists, Antagonists, Fixators, Synergists, Origin & Insertion, Tendon; Isometric & Isotonic contractions; Applied Aspects, Explain Composition i.e. Cellular & Non-Cellular components;, Types and functions of connective tissue; , Types and functions of Ligaments; , Applied Aspects., Describe Ovum, Spermatozoa, fertilization and formation of the Germ layers and their derivations. Development of skin, Fascia, blood vessels, lymphatic, (outline only details not required). , Discuss Development of bones, axial and appendicular skeleton and muscles, Neural tube, brain vessels and spinal cord, Development of brain and brain stem structures , Discuss the Structure of skin and its appendages	20
2	**Upper Extremity** Identify Osteology: Clavicles, Scapula, Humerus, Radius, Ulna, Carpals, Metacarpals, and Phalanges. , Identify Soft parts: Breast, pectoral region, axilla, front of arm, back of arm, cubital fossa, front of fore arm, back of fore arm, palm, dorsum of hand, muscles, nerves, blood vessels and lymphatic drainage of upper extremity. , Explain Shoulder girdle, shoulder joint, elbow joints, radio ulnar joint, wrist joint and joints of the hand. , Discuss Arches of hand, skin of the palm and dorsum of hand.	20

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Contents : Unit	Topics	Contact Hours
3	**Thorax** Describe Mediastinum: Divisions and contents Pericardium , Describe Thoracic Wall: position, shape and parts of the heart; conducting System , Describe blood Supply and nerve supply of the heart; names of the blood vessels and their distribution in the body – region wise. , Outline the respiratory passages, Pleura and lungs: position, parts, relations, blood supply and nerve supply; Lungs – emphasize on bronchopulmonary segments. , Describe Diaphragm: Origin, insertion, nerve supply and action, openings in the diaphragm., Describe Intercostal muscles and Accessory muscles of respiration: Origin, insertion, nerve supply and action.	20
4	**Lower Extremity** Identify Osteology: Hip bone, femur, tibia, fibula, patella, tarsals, metatarsals and phalanges., Identify Soft parts: Gluteal region, Anterior, posterior, medial and lateral aspects of the thigh (Femoral triangle, femoral canal and inguinal canal), medial side of the thigh (Adductor canal), lateral side of the thigh, popliteal fossa, anterior and posterior compartment of leg, sole of the foot, lymphatic drainage of lower limb, venous drainage of the lower limb, arterial supply of the lower limb, arches of foot, skin of foot. , Discuss Joints of the lower limb: Hip Joint, Knee joint, Ankle and joint, joints of the foot.	20
5	**Musculo skeletal anatomy of trunk & pelvis** Identify Osteology: Cervical, thoracic, lumbar, sacral and coccygeal vertebrae and ribs., Discuss Soft tissue: Pre and Para vertebral muscles, intercostal muscles, anterior abdominal wall muscles, Inter-vertebral disc. , Describe Pelvic girdle and muscles of the pelvic floor.	20
6	**Abdomen** Describe Peritoneum: Parietal peritoneum, visceral peritoneum, folds of peritoneum, functions of peritoneum. , Describe large blood vessels of the gut. , Identify Location, size, shape, features, blood supply, nerve supply and functions of the following: stomach, liver, spleen, pancreas, kidney, urinary bladder, intestines, and gall bladder. , Describe Pelvis: Position, shape, size, features, blood supply and nerve supply of the male and female reproductive system.	20
7	**Endocrine glands** Describe Position, shape, size, function, blood supply and nerve supply of the following glands: Hypothalamus and pituitary gland, thyroid glands, parathyroid glands, Adrenal glands, pancreatic islets, ovaries and testes, pineal glands, thymus.	20
8	**Musculo Skeletal Anatomy of Head and Neck** Identify Osteology: Mandible and bones of the skull. , Identify Soft parts: Muscles of the face and neck and their nerve and blood supply-extra ocular muscles, triangles of the neck.	20

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Contents : Unit	Topics	Contact Hours
9	**Neuro Anatomy** Discuss Organization of Central Nervous system - Spinal nerves and autonomic nervous system mainly pertaining to cardiovascular, respiratory and urogenital system (Cranial nerves, Peripheral nervous system, Peripheral nerve, Neuromuscular junction, Sensory end organs, Central Nervous System, Spinal segments and areas, Brain Stem, Cerebellum, Inferior colliculi, Superior Colliculi, Thalamus, Hypothalamus, Corpus striatum, Cerebral hemisphere, Lateral ventricles,Blood supply to brain, Basal Ganglia, The pyramidal system, Pons, medulla, extra pyramidal systems, Anatomical integration)	20
Total Hours		**180**

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Practical** Identify the parts of bones (Upper limb, lower limb and spine), Identify the muscles of extremities, trunk and face on a dissected human body/3 D models., Identify the joints of extremities, trunk and face on a dissected human body/3 D models., Identify the course and relationships of major peripheral nerves including plexuses formation , Identify the surface markings of joints, fascia, ligaments and muscles of extremities, trunk and face on a model, Identify the grass structure of heart, lungs, brain and spinal cord on a dissected , Human body/3 D models	120
Total Hours		**120**

Textbook :

1 Clinical anatomy: an illustrated review with questions and explanations., Snell RS. , Lippincott Williams & Wilkins, 2004

2 Text book of Anatomy with color Atlas Vol. 1, 2, 3, Inderbir Singh, Jaypee Brothers , 2016

3 Human anatomy Volume- I, II & III, Chaurasia BD., CBS Publisher, 2004

4 Textbook of human neuroanatomy., Singh I. , Jaypee Brothers Publishers, 2006

5 Kadasne'S T.B. of Anatomy Vol.1 Upper and Lower Extremities, Kadasne DK, Jaypee Brothers Publishers, 2009

6 Textbook of clinical neuroanatomy. , Singh V., Elsevier Health Sciences, 2014

7 Essentials of human anatomy, head and neck., Dutta AK., Current Books International (CBI), 2017

References:

1 Gray's Anatomy, Descriptive and Applied, Gray's Anatomy, Descriptive and Applied, Henry Gray, Longmans, Green & Co., 1916

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References:

2 Snell’s Clinical Neuroanatomy, Snell’s Clinical Neuroanatomy, Snell RS. , Wolters Kluwer, 2025

3 Cunningham's manual of practical anatomy, Cunningham's manual of practical anatomy, Romanes GJ. , Oxford University Press, 1966

4 Last's Anatomy: Regional and Applied, Last's Anatomy: Regional and Applied, R.J. Last, R.M.H. McMinn, Churchill Livingstone, 1994

5 A Colour Atlas of Human Anatomy, A Colour Atlas of Human Anatomy, Robert Matthew Hay McMinn, John Pegington, Peter H. Abrahams, Mosby Year Book, 1993

Suggested Theory Distribution:

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

Distribution of Theory for course delivery					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking / Creative**
0.00	0.00	35.00	35.00	30.00	0.00

Instructional Method:

1 Lecture

2 Tutorial

3 Demonstration using models including digital

4 Flipped class

5 Dissection

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