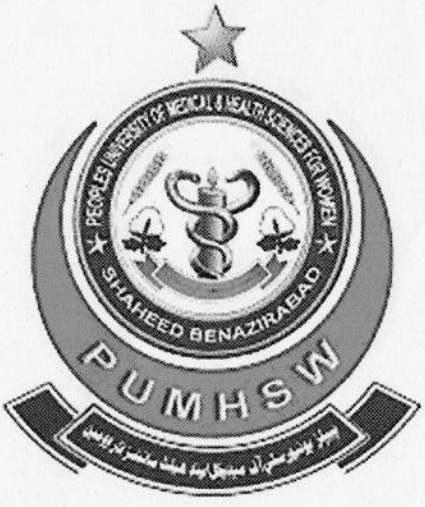
CURRICULUM



M.PHIL PROGRAM
DEPARTMENT OF ANATOMY

Peoples University of Medical & Health Sciences,
Nawabshah, Sindh

FOR RECOGNITION OF POSTGRADUATE STUDIES OF M. PHIL ANATOMY PROGRAM, ITS SYLLABUS AND CURRICULUM ALONG WITH TABLE OF SPECIFICATION AND ALLOCATED CREDIT HOURS AT PEOPLES UNIVERSITY OF MEDICAL & HEALTH SCIENCES, NAWABSHAH, SINDH TO PAKISTAN MEDICAL & DENTAL COUNCIL ISLAMABAD

Prof. ABDUL LATIF JOKHIO
MEMBER

DR. FAROOQ AHMED MUGHAL
MEMBER

DR. SHAHID HUSSAIN SOOMRO
MEMBER

PROF. MUHAMMAD ASLAM CHANNA
Convener
Board of Studies for M.Phil Anatomy Program

OUTLINES OF M.PHIL ANATOMY PROGRAM

1st Year Annual

Course Title	Code	Credit Hrs	Category
Microscopic Anatomy	*ANAT 0101	**5	Major
Micro Techniques	*ANAT 0102	**5	Major
General Anatomy + Thorax, Abdomen &Pelvis, Human Body-I	*ANAT 0103	**02(01+01)	Minor

2nd Year Annual

Developmental Anatomy + Human Embryology	*ANAT 0104	**05(03+02)	Major
Basic Concepts In Neuroanatomy + Clinical Neuroanatomy	*ANAT 0105	**05(03+02)	Major
Head , Neck + Extremities, Human Body -II	*ANAT 0106	**02(01+01)	Minor

3rd Year Research Work

Research (M.Phil Thesis)	*ANAT 0107	**06	Compulsory

*ANAT: ANATOMY.

** Credit Hours,1 credit hour = 25 learning hours (class work).

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1ST YEAR (Major Subjects)

Course title: Microscopic Anatomy + Micro Techniques

Course code: ANAT 0101 + ANAT 0102

Course Credits: 10(5+5)

I. Microscopic Anatomy:-

1. The Cell

1. Cell membrane & cell organelles
2. The nucleus and cell division

2. Tissues of the body

1. Epithelium
2. Connective tissue (generalized)
3. Skeletal tissue bone and cartilage
4. Muscular tissue
5. The nervous tissue

3. Histology of organ systems

1. Immune system and lymphoid organs
2. Circulatory system (heart and blood vessels)
3. The respiratory system
4. Gastrointestinal tract and accessory digestive organs
5. Urinary system
6. Endocrine system
7. Male and female reproductive system
8. Histology of the special senses

II. Micro Techniques:-

1. Introduction to histological microtechnique
2. Principles of fixation of biological materials, fixation and fixatives
3. Tissue processing and embedding
4. Use of stains in biology
5. Microtomy (selection, care and operation of microscopes used in biological procedures)
6. Photo micorgraphy
7. Electron microscopy (introduction and operation. Principle, types of fixation and embedding methods uses for electron microscopy)
8. Lab. Safety

List of Practicals:

1. Use of microscope
2. Familiarization to micro techniques
3. Demonstration on tissue processing
4. Study of histology slides
5. Dissection, removal and fixation of specimens from lab animals and acquired human tissues
6. Tissue processing and embedding
7. Microtomy (cutting of tissue sections)
8. Preparation of materials for staining
9. Staining of tissues and making of permanent slides.

1ST YEAR

(Minor Subject)

Course title: General Anatomy + Thorax, Abdomen &Pelvis, Human Body-I

Course Code: ANAT 0103

Course Credits: 02(01+01)

General Anatomy:

Contents:

1. Introduction to anatomy
2. Organization of the body
3. Cells, tissues organs and systems
4. General anatomy of musculo skeletal system
5. Basic organization of somatic and autonomic nervous system
6. General anatomy of circulatory system
7. The anatomy of vertebral column and vertebral canal
8. The anatomy of child

Thorax:

Contents:

1. Body wall, thoracic cage, thoracic wall and diaphragm
2. Thoracic cavity and mediastinum
3. Heart and pericardium
4. Lungs and pleura

Abdomen & Pelvis:

1. Anterior abdominal wall
2. Perineum
3. Male and female urogenital regions
4. Abdominal cavity and peritoneum
5. Gastrointestinal tract
6. Liver and biliary tracts
7. Pancreas and spleen
8. Abdominal aorta and its branches
9. Posterior abdominal wall
10. Lumbar plexus
11. Kidneys, ureters and suprarenal glands
12. Pelvic wall, pelvic joints and ligaments
13. Sacral plexus and pelvic blood vessels
14. Pelvic cavity and viscera
15. Male and female pelvic viscera

List of Practicals:

1. Dissection of Thorax/ Abdomen/ Pelvis/ Perineum
2. Lab. Demonstration of dissected parts to undergraduates
3. Preparation of museum specimens

2ND YEAR

(Major Subject)

Course title: Developmental Anatomy + Human Embryology

Course Code: ANAT 0104

Course Credits: 05(03+02)

Contents:

1. Fundamental concepts (the nature and scope of embryology. Historical background the terminology)
2. Experimental principles, manipulation of mammalian genome teratogenesis
3. General features of development (cell proliferation, growth, differentiation, integration)
4. Gametogenesis in male and female
5. The menstrual cycle, ovulation, fertilization and cleavage
6. Development of bilaminar germ disc and establishment of uteroplacentral circulation
7. Gastrulation, formation of the trilaminar disc, and initial development of the somites and neural tube
8. Differentiation of the somites and the segmental development and intergration
9. Development of the peripheral nervous system
10. Malformations of the nervous system. Central and peripheral
11. Fetal development and fetus as a patient
12. Fetal membranes and placenta and multiple pregnancies
13. Folding of the embryo and formation of the body cavities
14. Development of the respiratory system and anomalies
15. Development of the heart
16. Congenital cardiovascular disease
17. Vasculogenesis, development of the aortic arches and great arteries
18. Development of vitilline, umbilical and cardinal venous systems
19. Development of stomach liver, digestive glands and spleen
20. Folding and rotation of the midgut. Separation of the cloaca and formation of the anus
21. Development of cervical nephrotomes, mesonephric and metanephric kidneys, urinary bladder and urethra
22. Development of the male and female gonads, genital ducts and external genitalia
23. Abnormalities of the urogenital system
24. Development of the limbs
25. Formation of the skull
26. The pharyngeal arches and derivates
27. Morphogenesis of the face
28. Development of integumentary system

List of Practicals:

1. Preparation of whole mount and sections of chick embryo
2. Study of embryology slides

2ND YEAR

(Major Subject)

Course title: **Basic Concepts in Neuroanatomy + Clinical Neuroanatomy**

Course Code: **ANAT 0105**

Course Credits: **05(03+02)**

Contents:

1. Introduction and organization of nervous system
2. The neurobiology of the neuron and neuroglia
3. Nerve fibers, peripheral nerves receptor and effector endings, dermatomes and muscle activity
4. The review of neurohistology
5. Overview of the development of nervous system
6. The spinal cord and the ascending and descending tracts
7. The brainstem
8. The cerebellum and its connections
9. The cerebrum
10. The structural and functional localization of the cerebral cortex
11. The reticular formation and limbic system
12. The basal nuclei (Basal ganglia) and their connections
13. The cranial nerve nuclei and their central connections and distribution
14. The thalamus and its connections
15. The hypothalamus and its connections
16. The autonomic nervous system
17. The meninges of the brain and spinal cord
18. The ventricular system, the cerebrospinal fluid, and the blood brain and blood cerebrospinal fluid barriers
19. The blood supply of the brain and spinal cord

List of Practicals:

1. Dissection of the brain and spinal cord
2. Study of slides of nervous system
3. Assist in neuroanatomy Lab. Teaching to undergraduates
4. Clinical sessions in radiology department
5. Clinical sessions in neurology department

2ND YEAR

(Minor Subject)

Course title: Head , Neck + Extremities, Human Body -II

Course Code: ANAT 0106

Course Credits: 02(01+01)

Contents:

Head & Neck

1. The Skull: Fetal and adult
2. Ossification of the skull
3. The muscles, nerves, blood vessels and lymphatics of the face
4. The fascia and triangles of the neck
5. The parotid region
6. The infratemporal region
7. The nose and paranasal sinuses
8. The mouth and hard plate
9. The pharynx and larynx
10. The orbit and eye
11. The structure of the eye
12. The ear
13. Lymphatic drainage of the head and neck
14. Pre and post vertebral muscles
15. Cervical vertebrae and their movements
16. Cranial cavity and meninges
17. The dural venous sinuses
18. The thyroid gland
19. The parotid gland
20. The tongue
21. The cranial nerves and their testing
22. Ossification of the cervical and other vertebrae
23. Radiology of head and neck
24. Living anatomy of the nose and throat
25. Living anatomy of the eye

Anatomy Of Extremities

1. Bones of the upper limb and their ossification
2. The pectoral region and axial
3. The scapular region
4. The upper arm
5. The anterior and posterior facial compartment of the forearm
6. The hand
7. The radial and musculocutaneous nerves
8. The median and ulnar nerves
9. Venous and lymphatic drainage of the upper limb
10. Bones of the lower limb with their ossification
11. The gluteal region
12. Front and medial aspects of the thigh
13. Posterior facial compartment of the thigh and the popliteal fossa
14. Facial compartment of the leg
15. Region of the ankle and foot
16. The joints of lower limb
17. Innervation of the lower limb
18. Venous and lymphatic drainage of the lower limb
19. Surface anatomy of the lower limb and upper limb
20. Radiological anatomy of the lower and upper limb for different age groups

List of Practicals:

1. Dissection of Head & Neck, Upper & Lower Limbs
2. Lab. Demonstration of dissected parts to undergraduates
3. Preparation of museum specimens

Peoples University of Medical & Health Sciences, Nawabshah, Sindh

DEPARTMENT OF ANATOMY

M.Phil Program (Major & Minor)

Time Table

Time	Day					
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30 -10:30	-	-	PG Lecture Anatomy Major	PG Lecture Anatomy Major	Self study	Minor II (Biostatistics / Research Methodology Lectures
10:30 -12:30	PG Lecture Anatomy Major	Anatomy Major Lab 11:00 to 02:00	-	Interaction with Professor 10:30 to 12:00	-	Seminars/ Journal Club
1:00 -4:00	Anatomy Major Lab	-	Self study	-	Anatomy Minor Lab	Self study

EXAMINATION PROCEDURE

1ST YEAR ANNUAL EXAMINATION

Marks Assessment

Theory	=	BCQ + SEQS	=100
Marks	=	80% + 20%	=100
Practical	OSPE (Statistic + Interactive Stations & Internal Evaluation)		=100
			=200

2ND YEAR ANNUAL EXAMINATION

Marks Assessment

Theory	=	BCQ + SEQS	=100
Marks	=	80% + 20%	=100
Practical	OSPE (Statistic + Interactive Stations & Internal Evaluation)		=100
			=200

Passing standard= 60% marks for each theory & practical

SCHEDULE OF COURSE IN BASIC MEDICAL SCIENCE M.PHIL (ANATOMY)

1ST YEAR ANNAUL

Course Code	Subject	Course Credit (Credit Hours)
ANAT 0101	Microscopic Anatomy	05
ANAT 0102	Microtechniques	05
ANAT 0103	General Anatomy, Thorax, Abdomen & Pelvis	02
	Total	12

2ND YEAR ANNUAL

Course Code	Subject	Course Credit (Credit Hours)
ANAT 0104	Developmental Anatomy & Human Embryology	05
ANAT 0105	Basic Concepts in Neuroanatomy + Clinical Neuroanatomy	05
ANAT 0106	Head & Neck+ Extremities	02
	Total	12

3RD YEAR RESEARCH WORK

Course Code	Subject	Course Credit (Credit Hours)
ANAT 0107	Research (M.Phil Thesis)	06

EVALUATION & EXAMINATIONS

(Table of Specification)

1ST YEAR ANNUAL

Subject	No: of BCQs 80%	%age 20%	No of SEQs (20%)
Microscopic Anatomy (General	15	20%	2
Histology + Special Histology)	15	20%	2
Microtechnique	30	40%	4
General Anatomy +	10	10%	1
Thorax, Abdomen &Pelvis, Human Body-I	10	10%	1

2ND YEAR ANNAUL

Subject	No: of BCQs 80%	%age 20%	No of SEQs (20%)
Developmental Anatomy & Human Embryology	15	20%	2
	15	20%	2
Basic Concepts in Neuroanatomy + Clinical Neuroanatomy	15	20%	2
	15	20%	2
Head & Neck+ Extremities, Human Body II	10	10%	1
	10	10%	1

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