

**CURRICULUM**  
**FOR**  
**M.Phil IN ORAL ANATOMY**



**2008**

**KING EDWARD MEDICAL UNIVERSITY**  
**LAHORE, PAKISTAN**

## Prologue

By

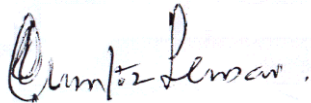
### The Honorable Vice Chancellor KEMU

The Program Faculty Committee Members of all M.Phil Programs are guided and assisted in order to enable them to meet the minimum requirements and Standards to be achieved. Only principle areas are addressed giving freedom for the students to raise questions and arguments and for the teachers to include most recent and best guidance literature curriculum contents. It is clear that beyond the main framework there are greater challenges in the areas of selecting modern knowledge, translating information into skills, selecting best pedagogy, and teaching in the light of different knowledge levels as determined by Blooms Taxonomy, effective communication, making use of best teaching aids, evaluations, counseling and role modeling. Moreover teachers of Postgraduate diploma programs have additional responsibility of keeping into view the community needs in terms of health care problems in their respective fields. The students in this modern curriculum have more responsibility to improve their knowledge beyond textbooks and visit libraries and World Wide Web as frequently as possible. Their logical arguments will serve as the backbone of the learning process.

The whole curriculum is divided into semesters to facilitate knowledge delivery and to make absorption more effective. Each semester is further subdivided into modules, which make the education process smooth.

I remain confident that both faculty and students will enjoy during this program.

I congratulate Chairperson M.Phil Program Coordination Committee, Professor Dr. Atiya Khalid and his dedicated team members / Program Directors, who have put in a lot of hard work to bring these framework guidelines in its present shape. It is very essential to note that these programs are based upon credit based modularized curriculum.



Prof. Mumtaz Hassan

**(S.I.)**

MBBS (Pb.) B.Sc. (Pb.) MRCP (UK), DTM&H (Edin)  
FCPS (Pak.), FRCP (Lond.), FRCP (Edin), FRCP (Glasg.),  
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FCCP (USA), FAFCA (USA)

VICE CHANCELLOR

King Edward Medical University,  
Lahore.

## Prologue

By

**The Honorable Pro- Vice Chancellor KEMU**

M.Phil programs in Basic Medical and Dental Sciences were introduced in Pakistan to create scientists and teachers. In absence of PhD programs these programs were equivalent to major qualifications of the universities. These programs before 2001 were spread over four years, two years of experience of teaching in the same subject in recognized teaching institution, one year of course work and one year of lab work and research. In 2001 curriculum was revised and all four years were included into the body of the program.

Now PhD programs are promoted, supported, encouraged and funded by Higher Education Commission, largely as M.Phil leading to PhD programs, the M.Phil programs are made equivalent to M.Phil in Engineering, Hard Sciences, Biological Sciences and Social Sciences.

The M.Phil programs based on this frame work will have the duration of two years at postgraduate level (level 7 according to the European Education levels) and will be credit based, modularized, Semesterized during first year and research work during second year. The qualification of M.Phil will be “Medium Qualification” according to “PMDC Criteria” and “Masters Qualification” according to QAA-UK Criteria.



**PROF. DR. SYED MUHAMMAD AWAIS**

*(Sitara-e-Imtiaz)*

**M.B.B.S.(Pb), M.C.P.S.(Surg), MSc. Bio-eng. (Dun.), M.S. (Orth)  
Pro-Vice Chancellor &  
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King Edward Medical University & Mayo Hospital & University,  
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## INTRODUCTION

It gives me great pleasure to write a few lines for the introduction to Curriculum for M.Phil in Oral Anatomy KEMU. This institution strives to enhance the quality of postgraduate study through continuous upgrading of support facilities including provision of academic, personal and social support. In this context, I feel great satisfaction on the launching of two years M.Phil programs in various other fields of medicine along with Oral Anatomy which will be unique of its type throughout the country and I am also proud to add another feather to the crown of King Edward Medical University.

This curriculum contains rules and regulations concerning eligibility, admission, examinations and quality assurance etc. for the M.Phil programs. The aims and objectives of this M.Phil training program are to produce specialists, after gaining knowledge and skills in the field of Oral Anatomy, to prepare scientific manpower to serve the community at primary and secondary care levels and to impart knowledge of recent advances in Oral Anatomy. The ever increasing demand of skilled personnel in this particular field will be fulfilled. The detailed information is also available on Internet. (Web page :)

**Prof. Dr. Riaz Ahmad Warraich**  
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*Faculty of Oral Biology M.Phil Program*  
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**Dr. Hina Abid**

**Dr Hafiz Shaker Mahmood**

**Dr. Tauqeer Ahmad**

**Dr. Rafea Tafweez**

**Dr. Nadia Tazeem**

**VISITING FACULTY**

**Prof. Dr. Muhammad Saeed**

**BASIC SCIENCES**

- **Anatomy;**
  - Prof Dr Atiya Mubarak Khalid,
  - Dr Tauqeer Ahmad,
  - Dr Rafea Tafweez,
  - Dr Nadia Tazeem,
- **Physiology;**
  - Prof Dr Muhammad Akram,
  - 
  -
- **Biochemistry;**
  - Prof Kamran Aziz,
  - Dr Muhammad Nasrullah
- **Pathology;**
  - Prof. Muhammad Munir,
  - Prof. Samina Naeem,
- **Research Methodology;**
  - Prof Dr Syed Muhammad Awais,
  - Mr Muhammad Ibrahim

## PROGRAM OUTLINE

Duration of the Program	2 years (Full Time)
Entry Qualification	BDS
Entry Procedure	Written Test (NTS) Interview

### Phase of Studies in Basic Curriculum

**Entry**

↓

<b>YEAR 1</b>	Semester 1 (18 weeks)	Semester 2 (18 weeks)
	Semester Evaluation (2 weeks)	Semester Evaluation (2 weeks)
	<i>Comprehensive Evaluation (2 weeks)</i>	
<b>YEAR 2</b>	Research & Dissertation (Lab Work) 48 weeks Project Synopsis Writing (4 weeks)	
	Research Project (42 weeks)	
	Dissertation Defense (2 weeks)	

↓

**Exit**

Year 1 is Semesterized into two Semesters of twenty (20) weeks each whereas year two (2) is annual of forty eight (48) weeks. Each module and the whole program is made credit based according to the following criteria.

## **CURRICULUM OUTLINE**

### **FIRST YEAR**

#### **1<sup>st</sup> Semester January 15<sup>th</sup> – May 28<sup>th</sup>**

◆ Teaching	18 weeks
◆ Review and Evaluation	02 weeks
Total	20 weeks

#### **SUMMER RECESS May 29<sup>th</sup> – July 30<sup>th</sup>**

#### **2<sup>nd</sup> Semester August 1<sup>st</sup> – December 28<sup>th</sup>**

◆ Teaching	18 weeks
◆ Review and Evaluation	02 weeks
Total	20 weeks

#### **WINTER RECESS December 29<sup>th</sup> – January 14<sup>th</sup>**

### **SECOND YEAR**

#### **1<sup>st</sup> Semester January 15<sup>th</sup> – December 20<sup>th</sup>**

◆ Synopsis Writing	04 weeks
◆ Teaching/Lab Work	42 weeks
◆ Dissertation Defense	02 weeks
Total	48 weeks



YEAR 1 SEMESTER 1

## Class Schedule

	701	702	703		704	705	706
Duration	2 weeks	2 weeks	2 weeks		2 weeks	5 weeks	5 weeks
Title of Module	Introduction to Oral Anatomy	Research Methods & Biostatistics	Molecular Biology & Genetics	Midterm Evaluation	Basic Science	Orofacial Embryology	Oral Physiology
Module Coordinator	Prof. Riaz Ahmad Warraich	Prof. Syed Muhammad Awais	Prof. Fridoon			Prof. Riaz Ahmad Warraich	Prof. Riaz Ahmad Warraich
Place of Learning	Patiala Block	Patiala Block	Patiala Block			Patiala Block	Patiala Block

## Year 1 Semester 1

### Weekly Schedule

<b>Days</b>	8am-9am	9am-10am	10am-11am	11am-Noon	Noon-1pm	1pm-4pm
<b>Monday</b>					LUNCH	
<b>Tuesday</b>						
<b>Wednesday</b>						
<b>Thursday</b>						
<b>Friday</b>						
<b>Saturday</b>				Self Directed Learning/ Guided Library Hours	LUNCH	

**Total No of hours in semester** **720**

Theory Lectures hours/weeks  18

Laboratory hours/weeks 12

Seminars and Assignments/weeks 06

Self learning hours/weeks 04

**Total hours/Week** **40**

Theory 70%

Practical 30%

## **Module No. 701**

<b>Module Title:</b>	Introduction to Oral Anatomy
<b>Duration:</b>	02 weeks
<b>Credit Hours:</b>	3hrs

### **Learning Objectives:**

After taking this course the students are expected to grasp the general feature of structure of human body and its preservation. They will be able to apply this knowledge to understand the systemic and radiological anatomy.

### **Course Contents:**

- ◆ Introduction to Oral Anatomy
- ◆ History of Oral Anatomy
- ◆ Anatomical Nomenclature and important definitions
- ◆ The Mouth
- ◆ The Tooth (Enamel, Dentine, Pulp)
- ◆ Supporting Tissues of the tooth (Periodontal Ligament, Cementum)
- ◆ Oral Mucosa
- ◆ Gingiva
- ◆ Salivary Glands
- ◆ Bones of the jaw
- ◆ Temporomandibular Joint

### **Practical Work:**

- ◆ Basic Histological and staining techniques
- ◆ Slide preparation
- ◆ Use and handling of light microscope/dissecting microscope
- ◆ Ground sectioning of teeth and bone

### **Seminar:**

- ◆ Basic concepts of laboratory procedures and their handling

### **Self Study:**

- ◆ Review of Literature
- ◆ Group Discussion

### **Recommended Books:**

- ◆ Oral Histology By A.R. Ten Cate

## **Module 702**

<b>Module Title:</b>	Research Methods & Biostatistics
<b>Duration:</b>	02 weeks
<b>Credit Hours:</b>	3hrs

### **Learning Objectives:**

To help participants to formulate ideas that can be tested in a scientific manner. To give participants a basic understanding of epidemiological methods and biostatistics. To develop the critical faculties of participants for evaluation of their own and other people's work. To give practical experience of development of study protocols and applications for research funding. To give practical experience of use of computers for word processing, data base manipulation, use of spreadsheets, statistical analysis, preparation of slides and overhead, internet communication and video conferencing and report writing.

### **Course Contents:**

#### ***Research Methods:***

- ◆ Philosophy, language, types and structure of research
- ◆ Conceptualizing research, problem formulation, research objectives
- ◆ Review of literature, sources of knowledge
- ◆ The planning evaluation cycle
- ◆ Sampling terminology, probability sampling, non-probability sampling, bias and error
- ◆ Time in research, type of relationships
- ◆ Variables, hypotheses, type of data
- ◆ Introduction to design, type of designs
- ◆ Experimental design
- ◆ Survey research, types of surveys
- ◆ Qualitative research, qualitative data
- ◆ Introduction to design, types of designs, experimental design
- ◆ Questionnaires

#### ***Biostatistics:***

- ◆ Data display and summary, mean and standard deviation
- ◆ Populations and samples
- ◆ Statements of probability and confidence intervals
- ◆ Differences between means, type I and type II errors and power
- ◆ Difference between percentages and paired alternatives
- ◆ The tests and the chi-squared tests
- ◆ Correlation and regression
- ◆ Study design and choosing a statistical test

***Epidemiology***

- ◆ What is epidemiology?
- ◆ Quantifying disease in populations
- ◆ Comparing disease rates
- ◆ Measurement error and bias
- ◆ Planning and conducting a survey
- ◆ Ecological studies, longitudinal studies, case-control sectional studies and experimental studies

***Technical Writing***

- ◆ Synopsis writing
- ◆ Grant proposal writing
- ◆ Research paper writing
- ◆ Thesis outline
- ◆ Thesis writing

**Self Study:**

- ◆ Review of Literature
- ◆ Group Discussion

**Recommended Books**

- ◆ Oral Histology By A.R. Ten Cate

## **Module 703**

<b>Module Title:</b>	Molecular Cell Biology
<b>Duration:</b>	02 weeks
<b>Credit Hours:</b>	3hrs

### **Learning Objectives:**

- ◆ This course is the second in the series of two courses designed to introduce both classical and contemporary topics in biology to the students.
- ◆ This course is structured to entertain students irrespective of their major.
- ◆ After taking this course students will be expected to have a basic understanding of the following fundamental concepts
- ◆ The role of cellular and molecular biology in medicine
- ◆ Immunology
- ◆ Molecular and cellular developmental biology (“miracle of life” formation of a complex organism from a single cell)
- ◆ Evolution with a molecular perspective (natural force and their effect in transformation of life)

### **Course Contents:**

- ◆ Recombinant DNA and Biotechnology
- ◆ Molecular Biology and Medicine
- ◆ Natural Defenses against Disease
- ◆ Differential Gene Expression in Development
- ◆ Animal Development: From Genes to Organism
- ◆ Development and Evolutionary Change
- ◆ The History of Life on Earth
- ◆ The Mechanisms of Evolution
- ◆ Species and Their Formation
- ◆ Reconstructing and Using Phylogenies
- ◆ Molecular and Genomic Evolution

### **Books Recommended:**

- ◆ Life, ‘The Science of Biology’ by Craig Heller

## **Module 704**

<b>Module Title:</b>	Basic Medical Sciences
<b>Duration:</b>	02 weeks
<b>Credit Hours:</b>	3hrs

### **Learning Objectives:**

This is multidisciplinary course that in two weeks gives students basic knowledge of the five pillars of basic medical sciences i.e. Anatomy, Physiology, Pathology, Biochemistry and Pharmacology. Students taking this course will be able to understand.

### **Course Contents:**

#### ***Anatomy:***

##### *Embryology*

- ◆ Fertilization, zygote, Morula, Gastrula, Embryonic period and derivatives of germ layers
- ◆ Brief account of Amnion, Chorion, Placenta
- ◆ Out line of development of Heart and its Anomalies
- ◆ Brief account of development of Urogenital, Digestive System

##### *Histology*

- ◆ Cell
- ◆ Tissue (Epithelial tissue, Muscular tissue, Connective tissue and Nervous tissue)
- ◆ General plan of microscopic structure of CVS
- ◆ Systems (Respiratory, Digestive system, Endocrine and Immune system of the body)

##### *General Anatomy*

- ◆ classification of bones, their blood supply and ossification
- ◆ classification of joints nerve supply and blood supply
- ◆ types and nerve supply of muscles
- ◆ definition of neuron and peripheral and central nervous system
- ◆ surface marking of heart, lungs, abdominal viscera

##### *Head and Neck*

- ◆ Bones, foramina of skull
- ◆ Name of cranial nerves, brief outline of 5<sup>th</sup> and 7<sup>th</sup> cranial nerves
- ◆ Dural venous sinuses, blood supply and nerve supply (brief account)
- ◆ Nose, pharynx and larynx (blood supply and nerve supply)

#### ***Physiology:***

- ◆ Functional organization of the human body and control of the internal environment
- ◆ Extra cellular fluid

- ◆ Homeostasis
- ◆ Dehydration and rehydration of K<sup>+</sup> homeostasis
- ◆ Anemia, polycythemia
- ◆ Resistance of body to infection the leukocytes, tissue macrophage system and inflammation
- ◆ Immunity and allergy
- ◆ Hemostasis and blood coagulation
- ◆ Cardiovascular system properties of cardiac output CCF test cardiac function and hypertension normal ECG acid base balance urine formation
- ◆ Respiration spirometry regulation real electrocardiogram
- ◆ Body fluids and kidneys, regulation of acid base balance
- ◆ Pulmonary blood flow
- ◆ The nervous system and special senses
- ◆ The gastrointestinal tract
- ◆ Metabolism and temperature regulation
- ◆ Endocrinology and reproduction
- ◆ Sports physiology
- ◆ Ovarian and testicular function tests
- ◆ Thyroid parathyroid adrenal pancreas endocrine hypothalamus

***Pathology:***

- ◆ Structure and functions of normal human cell inflammatory reaction, chemical mediators primary and secondary wound healing. Factors affecting the process of bone healing.
- ◆ Gram positive organisms and lesions produced by them. Gram negative organisms and lesions produced by them. Mycobacterial infections, lesions and laboratory diagnosis. Viral infections like hepatitis, AIDS, polio, herpes, measles etc. Functional infections superficial deep and opportunistic.
- ◆ Etiology and pathogenesis of thrombosis, complications and diagnosis thrombosis.
- ◆ Nomenclature etiology of tumors, benign and malignant tumor, route of spread of malignant tumor, effects of tumors, oncogens, tumour suppress genes, tumor markers and their diagnostic significance.
- ◆ Pathologic calcifications. Its types and lesions, various exogenous and endogenous pigments and lesions.
- ◆ Physical irritants and lesions produced by them. Ionizing radiations and lesions produce by them.
- ◆ Rheumatic, ischemic and congenital heart disease, endocarditis. Its etiology, lesions and complications.
- ◆ Tumors of bones, inflammation of bones and joint, muscle dystrophy important skin lesions and their diagnosis, inflammation and tumors in oral cavity including teeth and jaws.
- ◆ Tumors of lymph nodes and Leukemias, multiple myeloma lesions and lab diagnosis.



***Biochemistry:***

- ◆ General concept of metabolism of proteins, fats, carbohydrates and enzymes of the body.
- ◆ Structure and functions of nucleic acids and prostaglandins.
- ◆ Essentials of adequate nutrition and dietetics.
- ◆ Knowledge of vitamins and their deficiencies.

***Pharmacology:***

- ◆ Principles of pharmacotherapy
- ◆ Mechanism of drug action with special reference to clinical pharmacokinetics and clinical pharmacodynamics and their interactions.
- ◆ Basic and clinical knowledge of rational drug therapy, self medication, addiction and adverse drug reactions.
- ◆ Basic and clinical pharmacology including sedatives, hypnotics, anxiolytics, antidepressants, analgesics, anti-inflammatory drugs, corticosteroids, local anesthetics, general anesthetics, skeletal muscle relaxants, coagulants and anti-coagulants, anti-microbial drugs, anti-cancer drugs and immune-suppressants.
- ◆ Knowledge of drug used in dentistry such as local antiseptics, disinfectants, medicaments in RCT and the material used for dressing.

## **Module 705**

<b>Module Title:</b>	Orofacial Embryology
<b>Duration:</b>	06 weeks
<b>Credit Hours:</b>	9hrs

### **Learning Objectives:**

After taking this course the students must be able to describe those skeletal components that form the developing skull and face.

### **Course Contents:**

#### ***General Human Development:***

- ◆ Important developing events of fertilization and further growth of the fertilized ovum
- ◆ Development of the organs and organ systems of the embryo and the fetus, some of the vital changes at birth, and finally, several of the hereditary and environmental causes of abnormal development

#### ***General and Applied/Clinical Development of***

- ◆ Cartilages and bones of the facial skeleton
- ◆ Branchial apparatus
- ◆ Face, tongue, thyroid gland
- ◆ Base of skull
- ◆ Nasomaxillary complex and palate
- ◆ Mandible and temporomandibular joint
- ◆ Salivary glands
- ◆ Para nasal sinuses
- ◆ Tooth and its associated structures
- ◆ Dentition and occlusion
  - Knowledge of skeletal components that forms the developing skull and face
  - Knowledge of cartilages and bones of the cranial base, the maxilla, the mandible and the temporomandibular joint.
  - Definitions of the various articulations of the face and palate and abnormal growth resulting from a cleft palate.
  - The origin of the tooth formative cells and the role of induction in tooth formation.
  - Stages of tooth formation, including the details of mineralization of the dentin and enamel in the crown.
  - Developmental processes which are responsible for crown and root growth and the distinct junctions between dissimilar dental tissues.

#### ***Postnatal Facial Growth, Birth through Post adolescence***

- ◆ The important concepts of post natal facial growth, emphasizing various biological processes and their timing in the developmental sequences.
- ◆ The growth control mechanisms, specific growth sites in the facial skeleton and variations in abnormal development.

## **Module 706**

<b>Module Title:</b>	Oral Physiology
<b>Duration:</b>	04weeks
<b>Credit Hours:</b>	6hrs

### **Learning Objectives:**

After taking this course the students must be able to achieve a good knowledge of the basic principal of human physiology and to apply this knowledge in their dental practice.

### **Course Contents:**

- ◆ Pain
- ◆ Taste
- ◆ Mastication
- ◆ Deglutition
- ◆ The oral mucosa
- ◆ Immunology
- ◆ Wound healing
- ◆ Gingival and periodontal ligament
- ◆ Dental plaque
- ◆ Nutrition
- ◆ Age (gerontology)
- ◆ Stress and anxiety in dental treatment
- ◆ Saliva
- ◆ Calcium metabolism and bone
- ◆ Bone
- ◆ Growth and development of craniofacial skeleton
- ◆ Craniofacial morphogenesis
- ◆ Mechanism of tooth eruption
- ◆ Orthodontic tooth movement
- ◆ The healing of bone fractures
- ◆ Teeth
- ◆ Hormones

## Year 1 Semester 2 Class Schedule

	707	708	709		710	711	712
<b>Duration</b>	2 weeks	2weeks	2 weeks		2weeks	2 weeks	2 weeks
<b>Title of Module</b>	Oral Histology	Developm ent and Structure of Oral Tissues	Gross Anatomy of Orofacial Structures	Midterm Evaluation	Tooth Morphology	Comparativ e Dental Anatomy	Oral Radiology
<b>Module Coordinator</b>	Prof. Riaz Ahmad Warraich	Prof. Riaz Ahmad Warraich	Prof. Riaz Ahmad Warraich		Prof. Riaz Ahmad Warraich	Prof. Riaz Ahmad Warraich	Prof. Riaz Ahmad Warraich
<b>Place of Learning</b>	Department Lecture Room	Departme nt Lecture Room	Department Lecture Room		Department Lecture Room	Department Lecture Room	Department Lecture Room

## Year 1 Semester 2

### Weekly Schedule

<b>Days</b>	8am-9am	9am-10am	10am-11am	11am-Noon	Noon-1pm	1pm-4pm
<b>Monday</b>					LUNCH	
<b>Tuesday</b>						
<b>Wednesday</b>						
<b>Thursday</b>						
<b>Friday</b>						
<b>Saturday</b>				Self Directed Learning/ Guided Library Hours	LUNCH	

Total No of hours in semester 720

Theory Lectures hours/weeks  18

Laboratory hours/weeks 12

Seminars and Assignments/weeks 06

Self learning hours/weeks 04

**Total hours/Week 40**

Theory 70%

Practical 30%

## **Module 707**

<b>Module Title:</b>	Oral Histology
<b>Duration:</b>	02weeks
<b>Credit Hours:</b>	3hrs

### **Learning Objectives:**

After taking this course the students will be able to describe the Histological structures and function of oral tissues.

### **Course Contents:**

#### **Structures of Periodontium and the Temporomandibular Joint**

- ◆ Histological structures and function of periodontal tissues, root covered cementum, the alveolar bone and the intervening periodontal ligament
- ◆ Histological changes in the Periodontium that result from tipping, bodily movement , intrusive and extrusive and rotational forces on the tooth root during clinical treatment
- ◆ And from orthodontic tooth movement
- ◆

#### *Histology of the Periodontium*

- ◆ Alveolar Bone
- ◆ Cementum
- ◆ Periodontal Ligament
- ◆ Tooth Eruption and Shedding

#### **Structure of the teeth**

- ◆ Histology of Enamel
- ◆ Histology of Dentine
- ◆ Histology of Pulp histological differences between primary and Permanent Teeth

#### **Structure of the soft Tissues**

- ◆ Structure of the Oral Mucosa and tonsils
- ◆ Histology of Gingiva and Epithelial attachment
- ◆ Histology of Salivary Gland
- ◆ Histology of Saliva , Pellicle, Plaque, and Calculus

◆ Histology of Nasal Mucosa, Para nasal Sinuses and Olfaction

- ◆ Development of Tooth and its Supporting Structures
- ◆ Bone
- ◆ Development of Dentine

## **Module 708**

<b>Module Title:</b>	Development and Structure of Oral Tissues
<b>Duration:</b>	02weeks
<b>Credit Hours:</b>	3hrs

### **Learning Objectives:**

After taking this course the students will be able to describe the development of various hard and soft tissues of the oral cavity.

### **Course Contents:**

- ◆ Development of Tooth and its Supporting Structures
- ◆ Bone
- ◆ Development of Dentine
- ◆ Development of Enamel
- ◆ Development of Pulp
- ◆ Development of Periodontium
- ◆ Development of salivary Gland
- ◆ Development of Temporomandibular Joint



## **Module 709**

**Module Title:** Gross Anatomy of Orofacial Structures  
**Duration:** 02 weeks  
**Credit Hours:** 3 hrs

### **Learning Objectives:**

#### **Course Contents:**

- ◆ Osteology of Skull Bones especially
  - Maxilla
  - mandible
- ◆ Arterial supply of Teeth
- ◆ Innervations of Oro- facial Structures
  - Trigeminal Nerve
  - Facial Nerve
- ◆ Temporomandibular Joint
- ◆ Mandibular Position
- ◆ Mandibular Movements
- ◆ Muscles
  - Facial Expression
  - Mastication
  - Soft palate & Tongue

## **Module 710**

<b>Module Title:</b>	Tooth Morphology
<b>Duration:</b>	02 weeks
<b>Credit Hours:</b>	3 hrs

### **Learning Objectives:**

After taking this course the student are able to differentiate the structure , shape of deciduous and permanent Dentition

### **Course Contents:**

- ◆ Tooth formation standards
- ◆ Chronologies of Human Dentition
- ◆ The Primary Dentition
- ◆ The Permanent Dentition
- ◆ Development of teeth
- ◆ Tooth Sockets
- ◆ The Dental Arches
- ◆ Racial Differences in Teeth and Dentition
- ◆ Teeth and Genetics

#### **The Primary (Deciduous Dentition)**

- ◆ Life Cycle
- ◆ Importance of Primary Teeth
- ◆ Nomenclature
- ◆ Major Contrast between Primary and Permanent Teeth
- ◆ Pulp Chambers and Pulp Canals
- ◆ A Detailed Description of Each Primary Teeth
- ◆ The Occlusion of the Primary Teeth

#### **Anatomic and Physiologic Consideration of Form and Function**

- ◆ Form and Function
- ◆ Comparative Dental Anatomy
- ◆ A geometric Concept of Crown Out line
- ◆ Summary schematic Outlines
- ◆ Fundamental Curvature

#### **The Permanent Teeth**

## Concept of Occlusion

- ◆ An outline of Items for the study of Occlusion

## Tooth Development and Anomalies

## **Module 711**

<b>Module Title:</b>	Comparative Dental Anatomy
<b>Duration:</b>	02 weeks
<b>Credit Hours:</b>	3 hrs

### **Learning Objectives:**

After taking this course the students should be able to appreciate the different aspects of Comparative Dental Anatomy

### **Course Contents:**

- ◆ Classification of vertebrates and vertebrates and vertebrate Dentition
  - The subdivision of Time
  - General Consideration of Vertebrates Dentition
  
- ◆ Evolution of the Jaw and of the Mandibular Joint
- ◆ Comparative Anatomy of Dental Tissues
  - The structure of Rodent Incisor
- ◆ Dental Adaptations to Demands of Function
- ◆ Characteristics of the Human Dentition in the Light of Comparative Anatomy
  - The Dentition of Fossils of Importance in Determining the Antiquity of Man
- ◆ Changes of Dental Interest during Human Evolution

## **Module 712**

<b>Module Title:</b>	Oral Radiology
<b>Duration:</b>	02 weeks
<b>Credit Hours:</b>	3 hrs

### **Learning Objectives:**

After taking this course the students are able to

- ◆ understand the history and development of radiology, X-Rays circuits ,science dealing with the interaction of X-Rays with living Tissues.
- ◆ Know the radiopacities / radiolucencies of common tissues and materials.
- ◆ Have the knowledge to identify simple dental and contiguous structures of oral cavity and skull.
- ◆ Understand the production of Radiographs
- ◆ Know the basic concept of Digital, Magnetic, and Computer Tomography.

### **Course Contents:**

- ◆ History of Oral Radiology
- ◆ Production of X-Rays (circuitry)
- ◆ Atomic Interaction
- ◆ Attenuation / Absorption of X-Rays
- ◆ Production of Radiograph
- ◆ Common Oral Radiograph Techniques
- ◆ Concepts of MRI , Computer Radiography

### **Interpretation of Radiographs**

- ◆ Biology of bone
- ◆ Landmarks of the Mandible
- ◆ Landmarks of Maxilla
- ◆ Panoramic Radiographic Interpretation
- ◆ Peri -apical Radiographic Interpretation
- ◆ Variation in Number, Shape and Size of Teeth .
- ◆ Dental Age Evaluation by Nolla Stage of Tooth Development

## Year Two

<p><b>Research &amp; Dissertation (Lab. Work)</b></p> <p><b>48 weeks</b></p> <p><b>Project Synopsis Writing</b></p> <p>(4 weeks)</p>
<p><b>Research Project</b></p> <p>(42 weeks)</p>
<p><b>Dissertation Defense</b></p> <p>(02 weeks)</p>

## **Technical Standards/Requirement of M. Phil Program**

To ensure graduate education of an excellent caliber M.Phil programs the following guidelines

### **1 Entitlement, Responsibilities & Eligibility**

#### **1.1 Student Entitlement to the Study and Research Amenities:**

- a) Students will be provided an environment that is conducive to their scholarly activities.
- b) Students will be provided sufficient materials and supervision to ensure timely completion of their studies and research.
- c) Students will be given access to the entire relevant faculty for guidance and advice.
- d) Students will be entitled an access to computer and internet facilities to aid their studies and research.

#### **1.2 Responsibilities/Eligibility of the M.Phil Supervisor:**

- a) The supervisor will himself hold an M.Phil, an equivalent or a PhD degree and three years of research experience.
- b) Supervisor will ensure that his/her students are provided their entitled amenities.
- c) Supervisor will ensure that his/her students are provided sufficient materials and supervision to ensure timely completion of their studies and research.
- d) Supervisors will prepare a yearly progress report; the report will account the Educational Standards that were achieved and overall health of the M.Phil program listing any impediments and their possible solutions. This report will be submitted to the director M.Phil program.
- e) Consider a graduate student as a “junior colleague in research”.
- f) Work with the student to establish the supervisory committee as soon as possible after the commencement of the program, and ensure that it maintains contact and formally meets with the student at least once a year.
- g) When going on leave or during an extended period of absence, ensure that the student is adequately supervised by the provision of an acting supervisor (who should be a member of the supervisory committee),
- h) Ensure that the student is aware of his/her guidelines (as listed below), and when necessary, assist the student in meeting them; and

#### **1.3 Program of studies and progress report:**

- a) The period of completion of M.Phil Program shall be counted from the date of registration.
- b) The minimum period of completion of M.Phil program shall be two years.
- c) Candidates from Scientific Research Organization after the completion of their course work may carry out their experimental work in their parent laboratory on the recommendation of the Supervisor and with the approval of the Board of

Studies/Faculty Council, at the time of approval of the synopsis (for guidelines for preparation of synopsis see Annexure I).

- d) A M.Phil student shall be required to pass a comprehensive examination written/oral at the completion of first year.
- e) After passing the comprehensive examination, but before the submission of his thesis, M.Phil student will give one seminar on the topic relevant to his field of Research.

### **Annual Program Report:**

The supervisor/s of a M.Phil student shall submit a detailed report by 31<sup>st</sup> December each year on the progress of the student for the consideration of the advanced studies and Research Board.

## **2 Evaluations**

- 2.1 Evaluations help to measure effectiveness of a learning program. It uses assessment and validation tools to provide data for the evaluation. Assessment is the measurement of the practical results of the training in the work environment; while validation determines if the objectives of the training goal were met.
- 2.2 The term “evaluation” refers to continuous assessment, tests and examinations conducted at the end of a module, clinical clerkship or a stage of the curriculum.
- 2.3 Evaluation is used as a tool for improvement in learning as well as for certification i.e. student’s performance is reviewed with them as an aid for learning.
- 2.4 The faculty assesses understanding of concepts rather than memorization of facts, application of knowledge, competence in practical and clinical skills and appropriate professional behavior.
- 2.5 Evaluation of students conducted at the end of the modules and rotations, includes components from continuous evaluation during the modules. The purpose is to utilize continuous evaluation for assisting learning through early awareness of student’s strengths and weaknesses of knowledge, skills and attitudes. Continuous assessment is also used for eligibility to sit in the Final Examination.
- 2.6 Any student identified as having academic difficulties should be assessed in depth by appropriate faculty.
- 2.7 Students should be evaluated by an External Examiner for all certifying examinations.

## **3 Scoring and Grading System**

- 3.1 A grade in education means either a teacher’s evaluation of student’s work or a student’s level of educational process. In other words we can say that the performance of a student in a given module is made through continuous valuation. Grades are allocated to a student according to his/her performance in a module.



- 3.2 Grade ranking is required to be reflective of the various examinational performances. It is the predictive character of grades, which determines the institutional reputation. Grading reflects the individual's standing in his group.
- 3.3 In M. Phil. Thesis, Research Projects, Dissertation and Reports will be evaluated by the under mentioned grading scales.

Percentage Marks	Description
80 and above	Distinction
60 – 79	Satisfactory
Below 60	Unsatisfactory

### GPA System

#### 4 Grade Point Value

The numerical value assigned to a grade letter is known as grade point value.

Percentage Marks	Letter Grade	Grade Point Value	Description
90 and above	A+	4.0	Exceptional
85 – 89	A	3.70	Out Standing
80 – 84	B+	3.30	Very Good
75 – 79	B	3.00	Good
70 – 74	B-	2.70	Average
65 – 69	C+	2.30	Satisfactory
60 – 64	C	2.00	Pass
55 – 59	C-	1.70	Low Pass
50 – 54	D	1.00	Barely Passing
Below 50	F	0.00	Fail

- 4.1 Maximum possible Grade Point Average is 4.00.
- 4.2 Minimum Grade Point Average of obtaining M.Phil. Degree is 3.0.
- 4.3 A fraction of mark in a module is to be counted as '1' mark e.g. 64.1 or 64.9 is to be shown as 65.

## **5 Progressions**

- 5.1 All students are required to achieve at least 50% marks in each module and GPA 3.00 and have attended 80% of the delivered lectures and practical separately in each module at the end of semester-I for progression to the semester-II.
- 5.2 If a student fails to achieve 50% marks in any module assessment in any semester will be allowed **ONE** chance availed or un-availed to pass the failing module/s in Special Make-up Test/s.
- 5.3 If a student has obtained at least 50% marks in all modules but obtains GPA of 2.00 or more but less than 3.00 in any semester will be allowed to appear in Special Make-up test in Module/s with less than 3.0 Grade Point Value but more than or equal to 2.0 Grade Point Value for the improvement of GPA in **ONE** Chance availed or un-availed.
- 5.4 If a student who fails to secure GPA 2.00 at the end of any semester shall be automatically dropped from the rolls of the university.
- 5.5 All students are required to achieve at least 50% marks in each module and GPA 3.00 and have attended 80% of the delivered lectures and practical separately in each module at the end of semester-II.
- 5.6 A student who has passed semester-I and semester-II shall be eligible to Appear in Comprehensive Examination at the end of year one.
- 5.7 The scripts of Mid Semester Examination and Final Semester Examination of Semester-I and Semester-II shall be shown to the students by the teacher concerned however these scripts will be taken back after student has viewed them. The Department concerned shall keep such record for one year.
- 5.8 The teacher shall send the award list to the Chairman/Director/Principal of the Department to the Institute/Center/University who will forward it to the Controller of Examinations and a copy to Dean.

- 5.9 Any student, who is incapacitated because of illness, a suffering from severe affliction or has other compelling reasons, may apply for Special Make-up Test for the missed examinations of any module to the Head of the Department under intimation to the Controller of Examinations within five working days of the last date of missed examination with documentary proof.
- 5.10 In case of illness, he/she should submit medical certificate counter signed by the University Medical Officer.

## **6 Comprehensive Examination**

- 6.1 Student admitted to the M.Phil. shall take Comprehensive Examination after the first academic year.
- 6.2 The Comprehensive Examination will cover course work of all modules of the program taught during the academic year. The Examination will test student's ability to integrate and assimilate the knowledge obtained from the course, seminars and independent studies.
- 6.3 Controller of Examinations shall appoint Examiners for the Comprehensive Examination on the recommendation of the "M.Phil. Program Coordination Committee".
- 6.4 A student who obtains at least 50% marks in each paper with GPA 3.00 will pass Comprehensive Examination.
- 6.5 A student who fails to achieve 50% marks in any paper will be given **ONE** Chance availed or un-availed to pass the failing paper/s in the Re-sit Examination on the recommendation of his/her supervisor and M.Phil. Program Coordination Committee.
- 6.6 A student who has obtained at least 50% marks in all papers but obtains GPA of 2.00 or more but less than 3.00 in Comprehensive Examination will be allowed to appear in the Re-sit Examination in paper/s with less than 3.0 Grade Point Value but more than or

equal to 2.0 Grade Point Value for the improvement of GPA in **ONE** chance availed or un-availed on the recommendation of his/her supervisor and M.Phil. Program Coordination Committee.

- 6.7 The registration of an M.Phil student shall be deemed as cancelled if he/she does not pass the Comprehensive Examination even in the second attempt.
- 6.8 The syllabus for the Theory, Practical/Viva Voce Papers will be defined by the concerned department.

### 6.8.1 Papers of the Comprehensive Examination

**Panel of Examiners;** One Internal and one external in each program.

<b>Theory Papers</b>	Two (02)
<b>Marks</b>	100 Each Paper
<b>Composition of Each Paper:</b>	
MCQ	25%
Short Essay Questions	50%
Long Essay Questions	25%
<b>Practical / Skills</b>	100 Marks
<b>Viva Voce Examination</b>	100 Marks
<b>Total Marks (Theory + Practical + Viva Voce Examination) =</b>	
<b>200 + 100 + 100 = 400</b>	

### 6.8.2 Final Award

Log Book. (Record & Assignments);	10%
Internal Assessment (Semester Evaluations)	40%
Comprehensive Examination	50%
<hr/>	
<b>Total</b>	<b>100%</b>
<hr/>	

The Final obtained marks will be translated into grades and Grade points.

7 **Dissertation For M. Phil. Degree**

- 7.1 Dissertation shall be a compulsory requirement for M.Phil. Degree.
- 7.2 A candidate who qualifies the Comprehensive Examination may be allowed to prepare his/her research synopsis for M.Phil. Dissertation.
- 7.3 The synopsis shall be presented by the candidate before the Faculty Council for approval within four weeks.
- 7.4 A candidate will be given One Year for completion of his/her Dissertation after approval of the research synopsis for M. Phil Dissertation.
- 7.5 The candidate shall work under the supervision of Supervisor/Guide appointed for this purpose by the concern department after the approval of Dissertation.
- 7.6 An extension of one more year will be given in case of Non-Completion or rejection of M. Phil. Dissertation.
- 7.7 The date for the submission of Dissertation shall be notified by the Faculty Council.
- 7.8 The Board of Examiners for Viva Voce Examination shall comprise of the Head of the Department, Supervisor and External Examiner approved by the Faculty Council.
- 7.9 The Board of Examiners shall evaluate the Dissertation in an oral examination of the candidate. A candidate should score at least 60% marks for the approval of the Dissertation.
- 7.10 The Board may recommended a revision and one time re-submission of the Dissertation in case the Dissertation is not up to the standard and he/she fails to get 60% marks.
- 7.11 The candidate should be informed in writing by the convener about the changes he/she has to carryout in the Dissertation under intimation to the Controller of Examinations.
- 7.12 The candidate will resubmit the Dissertation after making the changes proposed by the Board of Examiners within Three months. The convener of the Board shall reconvene the meeting of the Board of Examiners to evaluate the resubmitted Dissertation in an oral examination of the candidate.

- 7.13 In case the candidate does not carry out the suggested amendments or fails in oral examination after the second attempt, his/her candidature shall be cancelled.
- 7.14 The candidate has to submit a new Dissertation after approval by the university authorities, if he/she desires and he/she will be considered new candidate for M.Phil. Dissertation.
- 7.15 Dissertation must form a distinct contribution to knowledge and afford evidence of originality, shown by the exercise of independent critical judgment.
- 7.16.1 Dissertation must not include research work for which degree has been conferred on him/her in this or any other university.
- 7.17 The candidate shall submit through his/her supervisor four copies (05 copies in case of co-supervisor) of his/her Dissertation typed or printed, along with 4 copies of a short abstract of about 1000 words. The candidate will also submit formatted copy of Dissertation on one CD for electronic library.
- 7.18 The Dissertation should be presented according to the format approved by the King Edward Medical University Lahore.
- 7.19 The Dissertation, which has been accepted, shall become property of the King Edward Medical University Lahore.
- 7.20 The candidate shall pay the prescribed fee for the examination at the time of submission of the Dissertation.

## Annexure I

The thesis synopsis should be organized according to the following pattern.

<b>a.</b>	<b>Title</b>	
<b>b.</b>	<b>Introduction</b>	<b>Should clearly manifest why the present work is undertaken.</b>
<b>c.</b>	<b>Literature Review</b>	<b>Place the project in academic context by referring to the major work by others on the topic.</b>
<b>d.</b>	<b>Objectives</b>	<b>Define clearly the aims of the research proposal.</b>
<b>e.</b>	<b>Significance</b>	<b>Explain the significance of the proposal for the field and the country.</b>
<b>f.</b>	<b>Plan</b>	<b>Give month wise tentative plan of the work.</b>
<b>g.</b>	<b>Methodology</b>	<b>Explain the approach and methods he/she will follow</b>
<b>h.</b>	<b>Bibliography</b>	<b>Up to date references.</b>

## **Annexure II**

The dissertation must be bound in accordance with the following specifications.

- a. Quarts approximately 10 inches, except for drawings and maps on which on restriction in placed. A margin of 105 inches to be left on left hand side. Cloth bound in standard size. Lettered boldly up back in gold (1 inch letters).
- b. The front should be the title, name of the candidate and the insignia of the University.



## **Annexure III**

### **Terms & Definitions**

#### **1. Modules and Units (Small Packets):**

Modularization of the Curriculum involves dividing the curriculum content (syllabus) into modules, which can be further divided into units. The module should consist of coherent and explicit learning activities. Modules can vary in length, but most institutions are moving towards standardization of length and credit value of the modules.

All programs based on Multiple Year Study Block, Annual Study Blocks and Semesters can be modularized. Thereby dividing the curriculum contents (syllabus) into small packets (modules) which can be further divided into units.

Thus, Modularization of curriculum is a way of organizing learning material in self-contained units that fit learner needs rather than the rigid boundaries of traditional courses. Each module is a self-contained learning unit based on the achievement of a specified set of learning outcomes.

In any modern educational institution, great flexibility is needed in terms of curricular design. The increasing trend towards modular systems and the running of courses, the scheduling system used must have sufficient flexibility to allow it to deal with a wide variety of structures.

In modularization the curriculum divided into more discrete units of assessable study can be easily replaced by new units / parts of improved quality. Modularization means that small parts can be put together to a whole because they come with standardized interfaces by which they can be connected.

Modules create greater access and flexibility to learning, to a variety of assessment tools, and to attainment of certification. They clearly define competencies / outcomes and assessment methods and expectations. The focus on learning outcomes and the workload of students may help to increase the transparency as well as the efficiency of study programs.

Semester's academic units and modules are also support students for migration and re-entry.

## 2. CREDIT ACCOMOLATION AND TRANSFER SYSTEM (CATS) of KEMU

In a credit accumulation system learning outcomes totalling a specified number of credits must be achieved in order to successfully complete a semester, academic year or a full programme of study, according to the requirements of the programme. Credits are awarded and accumulated if the achievement of the required learning outcomes is proved by assessment.

Credit accumulation provides students with the opportunity to have their learning achievements (e.g. from work-based and experiential learning) count towards a qualification. Credit transfer works at various levels: regional; inter-university; internal (within institutions); inter-qualification (e.g. from diploma to degree programmes); further/higher education; on campus/off campus (i.e. employment, work-based, distance learning); and internationally (i.e. European, transatlantic and global).

A credit accumulation and transfer system is a systematic way of describing an educational program by attaching credits to its components. Credit Hour or Credit Unit is basically the academic currency of the academic activities i.e. units, modules, semesters or programs. The Credit Accumulation and Transfer System (CATS) at King Edward Medical University Lahore have been based upon most commonly used “European Credit Transfer System (ECTS)”.

The CATS credits are values allocated to course units to describe the student workload required to complete them. They reflect the quantity of work each course requires in relation to the total quantity of work required to complete a full semester of academic study at the institution, that is, lectures, practical work, seminars, private work – in the library or at home – and examinations or other assessment activities, CATS credits express a relative value.

### **Key Features of CATS**

- i) CATS is based on the principle that 60 credits measure the workload of a full-time student during one academic year. The student workload of a full-time study program in Europe amounts in most cases to around 1500-1800 hours per year (at KEMU 1600 hrs per year), and in those cases one credit stands for around 25 to 30 working hours (at KEMU, clinical training is provided to students in small groups. Especially in postgraduate programs the teacher and student contact is very close). The academic week at KEMU is of 40 hours (Morning and Evening Teaching). One credit is equal to 25 to 30 hours (for both taught and practical training).
- ii) Credits in CATS can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved. Learning outcomes are sets of competences, expressing what the student will know, understand or be able to do after completion of a process of learning, long or short.

- iii) Students workload in CATS consists of the time required to complete all planned learning activities such as attending lectures, seminars, independent and private study, preparation of projects, examinations, and so forth.
  
- iv) Credits are allocated to all educational components of a study program (such as modules, courses, placements, dissertation work, etc.) and reflect the quantity of work each component requires to achieve its specific objectives or learning outcomes in relation to the total quantity of work necessary to complete a full year of study successfully.
  
- v) KEMU – CATS will make study programs easy to read and compare within Pakistan and abroad. CATS will facilitate mobility of students and academic recognition and will help KEMU to organize and revise their study programs.
- vi) The interpretation of foreign grades is a sensitive issue within the field of education as grading system varies from country to country. It provides common procedures to guarantee academic recognition of studies abroad. It provides a way of measuring and comparing learning achievements, and transferring them from one institution to another.
- vii) In CATS normally 30 credits are given for a semester. Credits are awarded when a course has been completed and all required examinations have been successfully taken.

### **3. PREPARING PROGRAM SPECIFICATION**

#### **i) Introduction**

The students must be provided clear and explicit information so that they can make informed choices about their studies and the levels they are aiming to achieve each program therefore must be developed by the universities according “Program Specifications” which identifies intended out come of the program in terms of

- The knowledge and understanding that a student will be expected to have upon completion
- Key skills; communication, numeracy, biostatistics, information technology and learning how to learn
- Cognitive skills such as understanding ability in critical analysis
- Subject specified skills such as laboratory, clinical and therapeutic

ii) **Definitions and Types**

The term program is used in the sense of an institutionally defined curriculum route that leads to a named award, and have following types.

- I. Single major subject program
- II. A joint program combining two subjects each with their own learning outcomes
- III. Interdisciplinary program
- IV. Multi disciplinary program
- V. Split program; one program runs by partly by more institutions.

iii) **Program Specification**

One particular approach to program specifications is not prescribed ; KEMU will wish to consider how the departments present their program specifications and determine their content. It is, however, suggested following information that is normally included in a program specification, is recommended.

- Awarding body / institution; KEMU, Lahore.
- Teaching institution (if different) (In case of affiliation)
- Details of accreditation by a professional / statutory body
- Name of the final award; M.Phil (subject)
- Program title; as above
- Aims of the program
- Relevant subject benchmark statements and other external and internal reference points used to inform program outcomes
- Program outcomes: knowledge and understanding; skills and other attributes
- Teaching, learning and assessment strategies to enable outcomes to be achieved and demonstrated
- Program structures and requirements, levels, modules, credits and awards
- Date at which the program specification was written or revised
- Criteria for admission to the program
- Information about assessment regulations
- Indicators of quality;
- Particular support for learning
- Methods for evaluating and improving the quality and standards of learning

#### 4. PROGRAM PROGRESS FILE

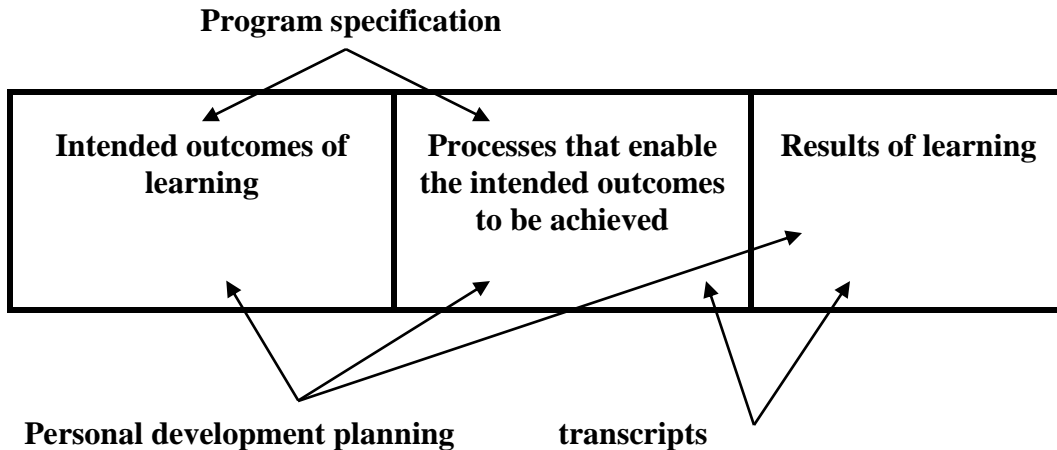
##### The Progress Files

The progress file is a document charting the progress of an individual and showed consist of two elements.

**A transcript** recording student achievement, which should follow a common format, derived by universities through their representative bodies.

**Personal development planning** undertaken by an individual as a structured and supported process to reflect his or her own learning, performance and/or achievement also known as “**Log Book**”.

- A. Schematic representation of the outcomes approach to learning showing the relationship between program specifications, transcripts and personal development planning.



##### B. Transcript

The transcript provides a comprehensive verifiable record of learning and achievement of an individual learner. Many HE institutions already provide students with a transcript but there is considerable variation in the information they contain. The progress file provides an opportunity to move towards a more consistent transcript which would:

- Improve the quality and consistency of information on the learning and achievement of individual students in higher education for the benefit of everyone who has an interest in such information;
- Promote awareness of the national qualification frameworks and national and international transparency and recognition of higher education awards;

- Contribute to an individual's lifelong record of learning and achievement;
- Support the process of personal development planning; and
- Encourage good practice in the provision of information on learning the Punjab higher education.

**C. Recommended data set for a transcript**

**Student**

- Name
- Date of birth
- Institutional reference number
- HE reference number

**Qualification**

- Name of qualification
- Level of qualification in National Qualification Framework (NQF)
- Name of awarding institution
- Name of institution responsible for delivering the program
- Language (s) of instruction (to meet HEC requirement)
- Language (s) of assessment (to meet HEC requirement)
- Professional Body accreditation to be appointed by PMDC.
- Statutory Regulatory Body recognition / approval (HEC / PMDC).

**Record of learning and achievement**

- Name of program
- Module or Sub-module (unit) study
- Title of previous examination
- Date (year) of last examination
- Marks of examination
- Number of attempts to pass last examination

**Other Types of Learning within the context of a program**

- Rotations X study visits to other institutions
- Work placement
- Work experience
- Accredited prior certificated and experiential learning
- Accredited Key Skills

**Award**

- Overall marks
- Overall classification or performance indicator (e.g. merit / distinction)
- Professional / statutory Body recognition (Regarding Credit Accumulation and Transfer)
- Date of award

### **Authentication**

- Date of issue
- Signature / seal (to be determined by the University / College / Institution)
- Telephone number for validating information

### **Explanatory information**

- Guidance on how to interpret the transcript (will be developed by universities)
- Overview of the National Qualification Awards Framework (to be issued by the HEC)
- Overview of the HE system (to be issued by HEC)

## **D. Personal Development Planning**

The term personal development planning (PDP) is being used to describe the ‘means by which students can monitor, build and reflect upon their personal development’.

Higher education already employs a variety of strategies to encourage students to reflect upon and evaluate their own learning experiences and plan for their own development. A variety of terms are used to describe a process of reviewing and recording learning and achievement, and action planning e.g. Personal Profiling, Personal and Academic Records, Personal (Academic) Development Plans, Progress Files, Learning Portfolios, Learning Logs and Diaries. Many of these terms emphasize that the records are a product of process. The term personal development planning is used in order to emphasize that this is an active learning process undertaken by individuals for themselves.

## **E. Personal Development Planning Quality Standards**

### **Opportunities and entitlements**

The minimum expectations for institutional PDP policies are that:

- At the start of a program, students will be introduced to the opportunities for PDP;
- Students will be provided with opportunities for PDP at each stage of their program.
- The rationale for PDP at different stages of a program will be explained for the benefit of students (e.g. in student or course handbooks or module/unit guides);
- The nature and scope of opportunities for PDP, and the recording and support strategies will be determined by each institution.

These minimum criteria are not intended to constrain existing practice or local initiatives and institutional or local policies are likely to exceed these minimum expectations.

### **Minimum outcomes**

On completion of their program students will have:

- Participated in PDP in a range of learning contexts at each stage or level of their program;
- Demonstrated that they can access and use the aids and tools provided by the institution to help them reflect upon their own learning and achievements and to plan for their own personal, educational and career development;
- With support, created their own learning records containing information on the qualities and skills they can evidence which can be drawn upon when applying for a job or further study.

### **Information on PDP**

- The opportunities for PDP in student programs will be made clear in the program specification and through any other means the institution considers appropriate;
- Students who are applying to study in HE will be informed about the institution's policies on PDP;
- At the start of their program students will be provided with information on PDP in their program including a rationale for the approaches used;
- Students will be provided with information on how they might integrate extra-curricula experiences (for example: voluntary service, part-time employment or work placements, study abroad, fieldwork and working as a student representative or Student Union officer) into their own personal development planning process;
- Students will be provided with information on any ways in which their own evidence of learning might be eligible for accreditation;
- Formal opportunities for PDP in the HE curriculum will be identified in the HE Transcript.

### **Quality Assurance**

- Institutions will be expected to have mechanisms to assure themselves that PDP is being implemented effectively.
- Guide line for the academic staff to explain expectations of the Personal Development Planning (PDP) to enable students to describe their own learning, performance or achievement and to plan their personal, educational and career development.



<b>Approach to PDP</b>	<b>Year-I</b>	<b>Year-II</b>
<b>1.</b> Supporting the development and recognition of skills through the personal tutor system.		
<b>2.</b> Supporting the development and recognition of skills in academic modules / units.		
<b>3.</b> Supporting the development and recognition of skills through purpose designed – modules/units		
<b>4.</b> Supporting the development and recognition of skills through research projects and dissertations work.		
<b>5.</b> Supporting the development and recognition of career management skills.		
<b>6.</b> Supporting the development and recognition of career management skills through work placement or work experience.		
<b>7.</b> Supporting the development of skills by recognizing that they can be developed through extra curricula activities.		
<b>8.</b> Supporting the development of the skills and attitudes as basis for continuing professional development.		
<b>9.</b> Other approaches to personal development planning.		
<b>10.</b> The means by which self-reflection, evaluation and planned development is supported e.g. learning log book or diary.		

4.3 **LOG BOOK**

**1. General Information**

- 1.1 Particulars of the candidate
- 1.2 Objectives of the logbook
- 1.3 Instructions to the students
- 1.4 Guidelines for the project director
- 1.5 Aims and objectives of the training program
- 1.6 Guidelines for the competency levels
- 1.7 Guidelines for filling consolidated sheets
- 1.8 List of different types of procedures
- 1.9 Weekly program

**2. Skills Record**

- 2.3 General Skills
- 2.4 Procedures
- 2.5 Case Presentation
- 2.6 Journal Clubs
- 2.8 Consolidated sheet

**3. Progress Report**

- 3.1 Record of regular test
- 3.2 Record of journal club meeting
- 3.3 Record of paper / case presentation
- 3.4 Record of conferences / workshops / lectures attended
- 3.5 Record of leave / absence / explanation

**4. (Assessment)**

**A. Guidelines**

1. Written Examination
2. Skills
3. Oral Examination and Table Viva

**B. Records**

# Annexure IV

## Quality Assurance

### 1. Academic Standard And Academic Quality

“Academic Standards” are predetermined and explicit levels of achievement that must be reached for a qualification to be awarded. “Academic Quality” the effectiveness of procedures and provisions that enable students to achieve qualification.

The Academic Standards therefore are incorporated into the followings:

1. Curriculum Design-Content-Organization.
2. Teaching-Learning-Assessment
3. Student progression and Achievement
4. Student Support and Guidance.
5. Learning Resources (State of Practice / Art)
6. Quality Management and Enhancement.

The measurement of effective of theses Academic Standards will determine the level of the “Academic Quality”.

### 2. Quality Assurance Of The Program

The academic standards are developed as predetermined and explicit levels of achievements that must be reached by the students, different persons and bodies in the university must administrate the learning facilities and environment that must be arranged by the institution and the procedures efficiently and effectively.

The “Quality Assurance” is therefore carried out in three (03) cycles.

**Cycle – 1: Monitoring;** Continues monitoring by the faculty resulting in “Annual Monitoring Report”. The report is generated by the Program Director. This is carried out every year.

**Cycle – 2: Peer Review;** or Internal Review, by a “Peer Review Committee” contributed by the King Edward Medical University comprising of three (03) teachers of the same specialty of the program, who are not members of the Program Faculty Committee these members may be preferably from outside the King Edward Medical University if available.

The cycle –2 is carried out every three (03) years.

**Cycle – 3: “Accreditation;** or External Review” The quality review is carried out by external reviews appointed by an Accreditation Body, board or Council. This cycle will be repeated every five (05) years, and King Edward Medical University makes all Accreditation reports available to the public.

### **3. Criteria For Peer Review Of The Academic Department With Reference To Academic Program**

To review of the provisions of the program specification and the subject; the academic reviewers use a number of questions that have bearing on program specifications are stated below with a brief commentary.

#### **Aims and Outcomes**

I. Evaluation of intended learning outcomes in relation to external reference points and to the broad aims of provision. Reviewers should ask:

- What are the intended outcomes for a program?
- How do they relate to external reference points including subject benchmark statements, the qualifications framework and any professional body requirements?
- How do they relate to the overall aims of the provision as stated by the subject provider?
- Are they appropriate to the aims?

Commentary – Program specifications may be used to help explain the aims and outcomes of program show what reference points have been used in the construction of outcome statements and indicate how these outcomes relate to the national qualification frameworks and relevant subject benchmark statements.

II. Evaluation of the means by which the subject provider designs curricula that permit achievement of intended outcomes. Reviewers should ask:

- How does the provider ensure that curriculum content enables students to achieve the intended learning outcomes?
- How does the provider ensure that the design and organization of the curriculum is effective in promoting student learning and achievement of the intended learning outcomes?

Commentary – Reviewers will look for evidence of the planning and deliberative process through which program outcomes were determined and the curriculum designed to enable outcomes to be achieved. They will also look for evidence of how teaching teams evaluate whether the curriculum is effective in promoting learning and achievement against intended outcomes.

III. Evaluation of the means by which intended outcomes are communicated to students, staff and external examiners. Reviewers should ask:

- How are the intended outcomes for a program and its constituent parts communicated to staff, students and external examiners?
- Do the students know what is expected of them?

Commentary – Reviewers will consider the information available to staff and provided to students and external examiners. They might consider how program specifications are used to promote understanding about the program outcomes and the other strategies used to communicate information of this type.

### **Curricula**

IV. Evaluation of the means by which the subject provider creates the conditions for achievement of the intended learning outcomes. Reviewers should ask:

- Do the design and content of the curricula encourage achievement of the intended learning outcomes in terms of knowledge and understanding, cognitive skills, subject-specific skills (including practical / professional skills), transferable skills, progression to employment and/or further study, and personal development?
- Is there evidence that the curricular content and design is informed by recent developments in techniques of teaching and learning, by current research and scholarship, and by any changes in relevant occupational and professional requirements?

Commentary – Reviewers will look for evidence that the curriculum supports the progressive development of intended outcomes. Program specifications can be used to show how the curriculum promotes the development of particular outcomes at each level. They may feature new or innovative pedagogic practice, or indicate which curriculum units have been particularly influenced by staff research.

### **Assessment**

V Evaluation of the assessment process and the standard it demonstrates. Reviewers should ask:

- Does the assessment process enable learners to demonstrate achievement of the intended outcomes?
- Are there criteria that enable internal and external examiners to distinguish between different categories of achievement?
- Can there be full confidence in the security and integrity of assessment procedures?
- Does the assessment strategy have an adequate formative function in developing student abilities?

Commentary – the program specification provides a starting point for demonstrating how the assessment process enables the program outcome to be demonstrated.

**Peer Review of the “Academic Programs” at KEMU.**

The “Peer Review Committee” will be appointed by the Vice Chancellor to review the concerned academic department with relation to the Program every three (3) years. The Peer Review Committee will comprise of Three (3) experts in the same subject. These experts will be the teachers who are not members of the “Program Faculty Committee” of the same program. However it will be preferred to appoint members from out side KEMU. The “Peer Review Committee” will examine the yearly “Monitoring Reports” produced by the program directors, inspect the learning facilities and the conduction of the programs and interview the students and the teaching faculty (especially the young).

Criteria to review and report the program will be based on following six essential elements.

1. Curriculum Design-Content-Organization.
2. Teaching-Learning-Assessment
3. Student progression and Achievement
4. Student Support and Guidance.
5. Learning Resources (State of Practice / Art)
6. Quality Management and Enhancement.

All elements will evaluate out of 100 points and rated against 4 points as under.

1 (1 – 25)	2 (26 – 50)	3 (51 – 75)	4 (76 – 100)
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The final report of “Peer Committee” will be according to Quality Assurance criteria 6 x 4 = 24 points.

1. ACCREDITATION RULES OF PROCEDURE

These will be adopted from Liaison Committee on Medical Education, USA August 2005 edition [updated February 2006 and June 2006]

**5. FACULTY SATISFACTION LEVEL**

As required by Higher Education Commission, The Program Director will assess the faculty satisfaction level regarding the Postgraduate Diploma Program according to following criteria.

A: Excellent      B: Very good      C: Good      D: Fair E: Poor

Sr.No	DESCRIPTION	A	B	C	D	E
1	Cooperation you received from colleagues	A	B	C	D	E
2	Cooperation you received from program director	A	B	C	D	E
3	Cooperation you received from Program Examination Committee.	A	B	C	D	E
4	The monitoring you performed & student response.	A	B	C	D	E
5	Remunerations/compensation for the Program.	A	B	C	D	E
6	Your satisfaction on the overall curriculum.	A	B	C	D	E
7	Your satisfaction on the overall learning resources.	A	B	C	D	E
8	Overall academic environment of the department.	A	B	C	D	E
9	Efforts to meet the time limits.	A	B	C	D	E

10. Your recommendation to improve the Program.

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Name of the Teacher: \_\_\_\_\_

Activity involved in module nos: \_\_\_\_\_

Designation: \_\_\_\_\_

Address: \_\_\_\_\_

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

**6. STUDENT SATISFACTION LEVEL**

As required by Higher Education Commission, the Program Director will assess the Student Satisfaction level regarding the concerned diploma program according to following criteria. The survey will be conducted after end of semester – 2.

A: Excellent            B: Very good            C: Good            D: Fair            E: Poor

Sr No	DESCRIPTION	A	B	C	D	E
1	The work in the program is too heavy and induces a lot of pressure.	A	B	C	D	E
2	The program is effective in enhancing team-working abilities.	A	B	C	D	E
3	The program administration is effective in supporting learning.	A	B	C	D	E
4	The program is effective in developing analytic and problem solving skills.	A	B	C	D	E
5	The program is effective in developing independent thinking.	A	B	C	D	E
6	The program is effective in developing written communication skills.	A	B	C	D	E
7	The program is effective in developing planning abilities.	A	B	C	D	E
8	The content of the program is adequate for pursuing the advanced courses in the program.	A	B	C	D	E
9	The training experience is effective in enhancing.	A	B	C	D	E
	Ability to work in teams independent thinking	A	B	C	D	E
	Appreciation of ethical values.	A	B	C	D	E
	Professional development	A	B	C	D	E
	Time management skills judgment	A	B	C	D	E
	Discipline	A	B	C	D	E
	The link between theory and practice.	A	B	C	D	E

10. Your recommendation to improve the program.

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Student Name: \_\_\_\_\_

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

**7. ALUMNI SATISFACTION LEVEL**

As recommended by Higher Education Commission the purpose of this survey is to obtain alumni input on the quality of education and the level of preparation they had at King Edward Medical University. The Program Director will conduct this survey and throughout the year and carry out analysis of the opinion received at the end of the year and include in the Annual Monitoring Report.

A: Excellent                  B: Very good                  C: Good                  D: Fair                  E: Poor

Sr. No	DESCRIPTION	A	B	C	D	E
1	Problem formulation and solving skills.	A	B	C	D	E
2	Collecting and analyzing appropriate data.	A	B	C	D	E
3	Ability to link theory.	A	B	C	D	E
4	Computer knowledge.	A	B	C	D	E
5	Oral Communication.	A	B	C	D	E
6	Report writing.	A	B	C	D	E
7	Ability to work in teams.	A	B	C	D	E
8	Independent thinking.	A	B	C	D	E
9	Appreciation of ethical values.	A	B	C	D	E
10	Professional development.	A	B	C	D	E
11	Time management skills	A	B	C	D	E
12	Discipline	A	B	C	D	E

Your Recommendation to improve the Program

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Alumni Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Designation / Position: \_\_\_\_\_  
Address: \_\_\_\_\_

E-mail: \_\_\_\_\_ Tel / Fax: \_\_\_\_\_

## **Annexure V**

### **Relevant Web Sites**

**Higher Education Commission Pakistan:**

[www.hec.gov.pk](http://www.hec.gov.pk)

**Quality Assurance Agency for Higher Education-UK:**

[www.qaa.ac.uk](http://www.qaa.ac.uk)

**Higher Education in Europe;**

[http://ec.europa.eu/education/policies/educ/higher/higher\\_en.html](http://ec.europa.eu/education/policies/educ/higher/higher_en.html)

**ECTS - European Credit Transfer and Accumulation System:**

[http://ec.europa.eu/education/programmes/socrates/ects/index\\_en.html](http://ec.europa.eu/education/programmes/socrates/ects/index_en.html)

