AYUB MEDICAL COLLEGE ABBOTTABAD

DEPARTMENT OF MEDICAL EDUCATION

FOUNDATION I MODULE STUDY GUIDE

1ST YEAR MBBS

BLOCK: A- PAPER A

DURATION: 03 WEEKS

STUDENT NAME

_____

DISCLAIMER

- Developing a study guide is a dynamic process and undergoes iteration according to the needs and priorities.
- This study guide is subjected to the change and modification over the whole academic year.
- However, students are advised to use it as a guide for respective modules.
- It is to declare that the learning objectives (general and specific) and the distribution of assessment tools (both theory and practical) are obtained from Khyber Medical University, Peshawar. These can be obtained from:

https://kmu.edu.pk/examination/guidelines

- The time tables are for guiding purpose. It is to advise that final timetables are always displayed over the notice boards of each lecture hall.
- Students are encouraged to provide feedback via coordinator

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1. Module Committee:

s.no	Name	Department	Role
1.	Prof. Dr. Umar Farooq	CEO & Dean	
2.	Prof. Dr. Irfan U. Khattak	DME	Director
	FOUNDATION MODULE		
3.	Dr.Ayesha Awan	Biochemistry	Block A coordinator
4.	Dr.Ayesha Awan	Biochemistry	Foundion module coordinator
5.	Dr.Sumaira	Anatomy	Member
6.	Dr.Aamir Nazir	Physiology	Member
7.	Ms.Aisha Saleem Jadoon	Prime	Member
8.	Dr.Sofia Shoukat	Biochemistry	Member

2. What Is A Study Guide?

It is an aid to Inform students how student learning program of the module has been organized, to help students organize and manage their studies throughout the module and guide students on assessment methods, rules and regulations.

The study guide:

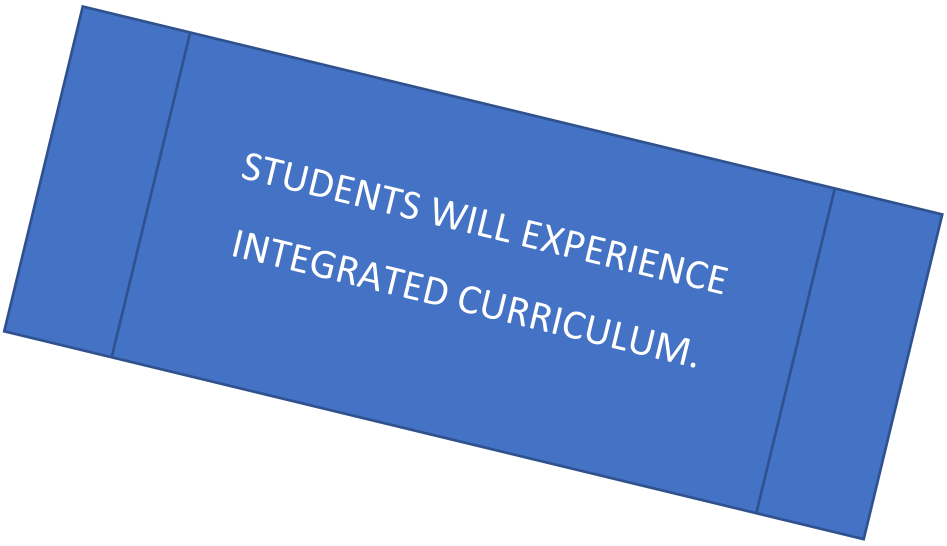
- Communicates information on organization and management of the module.
- This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings.

Module objectives.

- Provides a list of learning resources such as books, computer-assisted learning programs, weblinks, and journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's performance.

Achievement of objectives.

- Focuses on information pertaining to examination policy, rules and regulations.



3. Recommended List Of Icons

Introduction To Case

For Objectives

Critical Questions

Assessment

Resource Material

4. Table Of Specification

This table of Specification shows the distribution of Hours according to the time spent in teaching:

Subject	No of LGD Hours	No of SGD Hours	Percentage distribution(Hours in TT/total hrs*100)
Core Subjects:			
Gross Anatomy	1	20SGD	40.21%
Histology	5	6	
Embryology	5	-	
Physiology	12	6	19.56%
Biochemistry	12	4SGD+6P=10	23.91%
Additional Subjects:			
Pathology	3	-	3.26%
Pharmacology	1	-	1.08%
Forensic medicine	2	-	2.17%
Community medicine	3	-	3.26%
PRIME:			
Psychaitary	3	-	3.26%
Community Medicine	2	-	2.17%
Surgery	1		1.08%
Total	50+42 =92		99.96%=100%

5. Organization of Module

5.1 Introduction & Rationale

5.1.1 Introduction to block A.

Block A consists of two modules,a) Foundation & b) Blood and Immunology module. Biochemistry department of Ayub medical college organizes and conducts block A assessment.It maintains all the records regarding Block A including internal assessment.
All the 1st and 2nd year blocks have 3 core subjects i.e. Anatomy, Physiology and Biochemistry integrated with additional clinical subjects and PRIME.all these taught subjects have their share in formative and summative assessments. It is your problem solver and a handy guide for KMU annual examination

5.1.2 Introduction to foundation module

The Foundation module is a 3 weeks' module. It is divided into 4 themes by the examining university KMU. All the themes include the basic science subjects in a horizontal integrated way while clinical subjects integrated in a spiral fashion.
Foundation module is a bridge between the knowledge gained in your FSc/ HSSC levels and trying to incooperate it with your Professional schooling. Most of the topics taught are familiar to the students and we will try to build up your knowledge on the existing FOUNDATION.

The contents of the module will be taught in lectures (LGDs), SGDs (Small Group Discussions), Practicals and DSL (Directed Self Learning). Foundation module consists of the following themes:

THEME FOR FOUNDATION MODULE		
TOTAL DURATION – 03 WEEKS		
S.NO	**THEME**	**DURATION**
1.	Orientation	01day
2.	Cell	04 days
3.	Growth and development of Human body	1 weeks
4.	Human body tissues, bones and Joints	1weeks

6. LEARNING OBJECTIVE

6.1 General Learning Outcomes

By the end of Foundation module the students would be able to;

6.1.1 Knowledge

1-Familiarize with the MBBS system based curriculum
2. Recognize the role of different disciplines in studying human body and its diseases.
3. Describe the structure, function and biochemical composition of cell.
4. Describe the cell division, its types and genetic material along with its clinical correlation.
5. Describe the basic organization of human body.
6. Describe the basic tissues of human body
7. Explain the maintenance of homeostatic mechanism.
8. Describe the various stages of embryonic and fetal human development and correlate them with various malformations.
9. Describe the importance of buffer and PH system.
10. Describe the biochemistry of carbohydrates, nucleic acids and enzymes
11. Describe various cellular adaptations during cell growth, differentiation and cell injury.
12. Describe the basic concepts of –PRIME MODULE

P – Professionalism, Patient safety & Communication Skills
R – Research
I – Identity formation
M – Management & Leadership
E – medical Ethics

6.1.2 Skills

1. Describe the basic laboratory techniques and use of microscope.
2. Identify basic tissues under the microscope
3. Follow the basic laboratory protocols
4. Perform biochemical analysis of carbohydrates
5. Prepare different solutions

6.1.3 Attitude and behaviour

1. Follow the basic laboratory protocols.
2. Participate in class and practical work efficiently
3. Maintain discipline of the college
4. Follow the norms of the college properly
5. Communicate effectively in a team with colleagues and teachers

6. Demonstrate professionalism and ethical values in dealing with patients, cadavers, colleagues and teachers
7. Communicate effectively in a team with colleagues and teachers.
8. Demonstrate the ability to reflect on the performance .

6.2 SPECIFIC LEARNING OBJECTIVES

FOUNDATION MODULE

THEME–I: Orientation			
SNO	**Topics**	**Learning Outcomes**	**MIT/HOURS**
SUBJECT: ANATOMY			
1	**Anatomy and it Subbranches**	1. Define anatomy and its branches 2. Describe purpose of study of anatomy and its branches	LGD/1hr
PHYSIOLOGY			
2	**Physiology and Subbranches**	3. Enumerate the branches of physiology	LGD/1hr
BIOCHEMISTRY			
3	**Introduction to biochemistry and its implication in medicine**	4. Define biochemistry 5. Discuss the role of biochemistry in medicine.	LGD/1/2hr Los combined with next topic
PATHOLOGY			
4	**Introduction to pathology and its implication in medicine**	6. Define pathology 7. Enumerate the different branches of pathology. 8. Identify different sampling and processing techniques in different branches of pathology	LGD/1HR
PHARMACOLOGY			
5	**Introduction to pharmacology and its role in modern medicine**	9. Define pharmacology and role of pharmacology in medicine. 10. Define the pharmaco dynamics and pharmacokinetics	LGD/All Los combined in 1hr
COMMUNITY MEDICINE			
6	**Introduction to community Medicine and its implication**	11. Describe Role of community medicine/public health in health care system.	LGD/1/2hr LO combined with next
FORENSIC MEDICINE			

	Introduction to Forensic Medicine and Toxicology	12. Define Forensic Medicine, forensic pathology and state Medicine. 13. Identify the Branches of Forensic Medicine. 14. Describe the History of Forensic Medicine 15. Discuss the scope of Forensic Medicine. 16. Identify the essential facilities for medicolegal investigation. Define Medical Jurisprudence (not included for assessment in foundation module first year MBBS)	LGD/1/2hr
8	**Pakistan Medical Commission, Consent.**	17. Describe the structure and functions of Pakistan Medical Commission.	LGD/1/2hr
MEDICAL EDUCATION/PRIME			
9	**Curriculum structure Teaching learning strategies**	18. Discuss the curriculum and modules. 19. Describe the use of study guides. (not to be assessed) 20. Differentiate between various teaching & learning strategies. 21. Enlist various assessment tools & assessment policy. (Not to be assessed).	LGD/6hrs
IT SKILLS			
10	**Importance of IT skills**	22. Define IT and its importance	SGD
11	**MS word skills PowerPoint skills Excel sheet**	23. Prepare the assignment on MS word 24. Prepare the presentation on power point 25. Use the excel sheet	SGD
LIBRARY			
12	Literature search and library resources	26. Literature search skills	DSL

THEME–II: CELL			
S.NO.	**Topic**	**Learning Outcomes**	**MIT/HOURS**
ANATOMY			
13	**Cell structure and its Organelles**	27. Describe the cell as a living unit of body 28. Describe the structure of cell and its organelles. 29. Describe the structure of cytoplasmic organelles of the cell & correlate it with their functions.	LGD/1hr
14	**Nuclear structure & components**	30. Describe the structure of the nucleus, nucleolus & chromosome and their functions in cell integrity.	LGD/Los combined above
15	**Cell division** **Mitosis**	31. Explain the process of cell division. 32. Describe mitotic cell division with its stages.	LGD/1hr
16	**Meiosis**	33. Explain the process of Meiosis 34. Describe karyotyping. 35. Explain the non-disjunction of chromosomes. 36. Correlate the process of non-disjunction with chromosomal abnormalities	LGD/Los combined above
PHYSIOLOGY			
17	**Cell Membrane Physiology**	37. Explain Intra cellular and extra cellular environment. 38. Correlate cytoplasmic organelles with their functions.	LGD/2hrs
18	**Homeostasis**	39. Define homeostasis. 40. Describe the Homeostatic mechanism of major functional systems. 41. Describe the characteristics of control systems with examples	LGD/2hr

19	**Membrane potential**	42. Define membrane potential 43. Describe ionic conc. differences across cell membrane Explain the Nernst equation. 44. Explaination of normal resting membrane potential	LGD/2hr
20	**Movements of cell**	45. Explain the amoeboid movement of cells. 46. Describe the ciliary movements	LGD/1hr
21	**Depolarization & Repolarization**	47. Explain the role of voltage gated Na+ and K+ channels in action potentials. 48. Discuss the changes in conductance of Na and K channels with changes in membrane potentials	LGD/2hr

BIOCHEMISTRY			
22	**Biochemical structure of cell Biochemical structure of Mitochondria**	49. Explain the Bio-chemical composition of cell organelles and cytoplasm 50. Describe the chemical structure of mitochondrial membrane. 51. Explain the biochemical importance of mitochondrial membrane.	LGD/1/2hr/combined with previous Los
23	**Nuclear membrane**	52. Describe Bio-chemical structure of nuclear membrane and its functions.	LGD/combined

24	**RNA & DNA**	53. Define and explain nucleotides and nucleosides. 54. Describe the components of nucleotides 55. Describe the functions of Nucleotides 56. Describe the types of nucleic acids 57. Differentiate between RNA and DNA..	LGD/2hr SGD/2hrs
25	**Buffer**	58. Define Buffer and its role in maintenance of body PH 59. Define colloidal state and Henderson Hasselbalch equation. 60. Define adsorption and how it occurs. 61. Explain ion exchange resin	LGD/1hr
26	**Cellular membrane transport Mechanism**	62. Explain membrane transport. 63. Discuss passive diffusion, active transport, and facilitated transport via a channel or carrier. 64. Describe and evaluate the role of ion gradients, co transporters, and ATP in active transport mechanisms.	LGD/1hr
PATHOLOGY			
27	**Cell injury**	65. Describe the various causes of cell injury. 66. Describe the response of a normal cell to stimuli. 67. Describe the mechanisms of cell injury. 68. Describe the different types of cellular adaptations.	LGD/1hr
PHARMACOLOGY			
28	**Routes of administration of drugs**	69. Enlist the route of administration of a drug.	LGD/1hr for all LOs

THEME–III:GROWTH & DEVELOPMENT OF HUMAN BODY			
S.NO	**Topic**	**Learning Outcome**	**MIT/HOURS**
34	**Introduction to Embryology**	83. Describe the developmental stages. 84. Describe the embryologic terminology. 85. Explain significance of embryology.	LGD/1hr
29	**Transmembrane drug transport**	70. Explain how drugs are transported across cell membrane and factors affecting it	LGD
30	**Receptor and cellular basis**	71. Enlist the types of drug receptors	LGD
LAB WORK			
31	**The Microscope**	72. Identify parts of microscope. 73. Demonstrate operation of microscope. 74. Describe the method of focusing slide at different magnifications. 75. Follow the specified norms of lab work.	Practical/Demo/2hrs
32	**Lab Equipment**	76. Introduction to lab techniques 77. Identify the equipment used in lab work	Practical/2hrs
33	**PH and buffer Solutions**	78. Define normal solution 79. Define standard solution. 80. Prepare 0.1N solution of NaOH. 81. Prepare 0.1N solution of HCL. 82. Measure the PH of given solution (practical).	Practical/2hrs

35	**Spermato-Genesis**	86. Describe the process of spermatogenesis. 87. Differentiate between spermiogenesis and spermatogenesis. 88. Describe the morphological changes during maturation of gametes.	LGD/1hr
36	**Oogenesis**	89. Describe oogenesis and its correlation with meiosis. 90. Compare the male and female gametes.	LGD/1hr
37	**Transport Of Gametes**	91. Explain the transport of gametes. 92. Describe the transport of sperms. 93. Describe the oocyte transport. 94. Explain the maturation of sperms.	Combined above
38	**Female reproducti ve cycle**	95. Describe the ovarian cycle. 96. Discuss the process of follicular development 97. Explain the process of ovulation. 98. Correlate ovulation with the phases of menstrual cycle.	LGD/1hr
39	**Fertilization – Events**	99. Define fertilization. 100. Describe the process of fertilization. 101. Explain assisted reproductive technologies like In-vitro fertilization (IVF), assisted IVF and intra cytoplasmic sperm injection (ICSI).	LGD/Los Combined above

40	**Fertilization – Clinical Correlates Cleavage & Blastocyst Formation**	102. Discuss the clinicalcorrelation of the fertilization. Describe the process of cleavage of zygote. 103. Discuss the formation of blastocyst. 104. Summarize the events of first week of development.	LGD/1hr
41	**Implantation & Its Abnormalities**	105. Describe the process of implantation. 106. Enumerate the sites of implantation. 107. Explain the clinical correlations othe implantation process.	Combined above
42	**Amniotic cavity**	108. Describe the formation of amniotic cavity 109. Describe the development of embryonic disc 110. Describe the development of umbilical vesicle. 111. Explain the development of Chorionic sac.	LGD/2hrs Los continue in blood module
43	**Events Of 2nd Week of Development**	112. Summarize the events of second week of development. 113. Explain the clinical correlates of the second week of development.	Combined above
44	Formation of Notocord	114. Explain the process of formation of Notocord	Combined above

45	**Events of 3rd Week of Development**	115. Describe the process of gastrulation. 116. Explain the process of Neurulation. 117. Explain the development of somites. 118. Describe the development of intra-embryonic coelom.	LGD/1hr
46	**Derivatives of germ layers**	119. Describe briefly derivatives of germ layers –Ectoderm –Mesoderm –Endoderm	Combined above
47	**Further development of Trophoblast and Neuralation**	120. Describe the process of development of Trophoblast and neurulation	LGD/1hr
48	**Fetal membranes**	121. Describe the formation of fetal membranes	Combined above
49	**4th week: Folding of embryo**	122. Describe the process and types of folding of embryo	LGD/1hr
50	**Highlights of 4-8 weeks**	123. Enlist the events occurring in 4-8 weeks of development	Los Combined above
BIOCHEMISTRY			
51	**Chemistry of Acids and Bases**	124. Define acids, bases Describe strong acids and weak acids. 125. Describe strong bases and weak bases. 126. List different types and sources of acids and bases in our body 127. Describe the mechanism of their normal balance and biochemical importance	LGD/1/2hr

52	**Importance of surface tension and viscosity in our body**	128. Explain surface tension, viscosity, vapor pressure, normal boiling point and capillary action	LGD/1/2hr Combined with previous Los
53	**Carbohydrates –I**	129. Describe carbohydrates and give their Bio-chemical importance. 130. Classify Carbohydrates 131. Explain carbohydrate and its Bio-chemical structure. 132. Describe the different isomers of monosaccharides. e.g. Galactose, mannose, fructose, dextrose. 133. Describe the role of dextrose in I/V infusion. 134. Describe the role of mannitol in cerebral edema.	LGD/2hr
54	**Carbohydrates – II**	135. Describe the structure of disaccharides and oligosaccharides.	LGD/1hr SGD/2hs
55	**Carbohydrates – III**	136. Relate the structure of polysaccharides with its clinical importance. 137. List the functions of carbohydrates in cell membrane, energy provision and nutrition supply to different parts of body.	LGD/1hr
COMMUNITY MEDICINE			
56	**Determinants of health**	138. Define health 139. Describe the Determinants of Health	LGD/1/2HR Los combined With previous.

57	**Disease causation**	140. Describe Spectrum of Disease 141. Explain Natural History of Disease 142. Explain Theories of Disease Causation. 143. Differentiate between Disease Elimination and Eradication.	LGD/1hr
58	**Chain of infection**	144. Describe reservoirs of infection & chain of infection	LGD/1hr
59	**Levels of prevention**	145. Discuss /describe Levels of Prevention	LGD/Los combined with previous Los
LAB WORK			
60	**Sterilization**	146. Explain the process of sterilization 147. Enumerate the different methods of sterilization Observe the process of autoclaving in the laboratory	Practical/Demo/2hrs
61	**Capillary Blood Sampling**	148. Obtain capillary blood sample for hematological investigations through prick method 149. Identify the sites for obtaining blood sample with different methods and list the indications for their use.	pratical/ 2hrs
62	**Detection of Monosaccharide's**	150. Define Monosaccharide's 151. Discuss structure and types Perform the sequence of tests to identify the monosaccharides in a given solution.	Practical/Demo/2hrs
63	**Detecting of Reducing and non-reducing Sugars**	152. Define reducing sugars, types. 153. Discuss structure and types of reducing sugars 154. Perform Benedicts test	Practical/Demo/2hrs

64	**Detection of Polysaccharides in a given Solution**	155. Define Polysaccharides. 156. Discuss structures and types of Polysaccharides Perform the sequence of tests to identify the polysaccharides in a given solution.	Practical/Demo/2hrs

THEME–IV: HUMAN BODY TISSUES, BONES & JOINTS			
SN0	**Topic**	**Learning Outcome**	**MIT/Hours**
ANATOMY			
65	**Organization of human body**	157. Describe the levels of organization of human body	Dissection/2hrs
66	**Anatomical terms**	158. Describe the anatomical terms for planes, position and movements	
67	**Classification of Bones**	159. Describe the structure and function of bone 160. Classify bones on the basis of length and shape. Identify the markings on bone	Dissection/2hrs
68	**Cartilage**	161. Describe cartilage 162. Classify the types of cartilage 163. Describe the types of cartilages	
69	**Introduction to Joints**	164. Classify joints on the basis of structure. 165. Describe the mechanism of movements of joint	Dissection/2hrs
70	**Muscles**	166. Describe various muscle types along with structure.	
71	**Skin / Integumentary system Skin**	167. Discuss the anatomical structures of Skin / Integumentary system (dermis & epidermis) Skin creases, Nails, Hairs, Glands (Sebaceous & sweat**)**	Dissection/2hrs

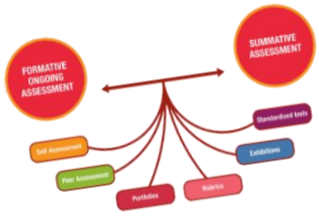
72	**Lymphatic system**	168. Describe the lymphatic system. 169. Explain the functions of lymphatic system 170. Describe the organization of lymphatic system 171. Explain the mechanisms for the movement of lymph in the body.	Dissection/2hrs
73	**Nervous system Divisions (central & peripheral and somatic & autonomic)**	172. Define the organization of nervous system 173. Describe the divisions of nervous system 174. Describe the formation of spinal nerve and concept of dermatome and myotome 175. Describe the formation of nerve plexus.	Dissection/2hrs
74	**Autonomic Nervous system Sympathetic. parasympathetic nervous system**	176. Describe the organization of autonomic nervous system 177. Differentiate between sympathetic and parasympathetic nervous system on the basis of structure.	Dissection/2hrs
75	**Membranes: Mucous membranes, Serous membranes**	178. Describe the structure of membranes of human body	Dissection/2hrs
76	**Fascia, ligaments and raphe**	179. Describe the anatomy and significance of fascia, ligaments and raphe.	Combined above
77	**Radiological anatomy**	180. Describe various views used for obtaining radiographs	Dissection/2hrs
	HISTOLOGY		
78	**Basic Body tissue Definition of tissue Epithelial tissue Connective tissue**	181. Define tissue 182. Describe the basic tissues in human body	LGD/1hr

	Muscular tissue Nervous tissue		
79	**Epithelial tissues Classification of epithelium General characteristics and Functions of Epithelium**	183. Classify epithelium 184. describe the general features of epithelium explain the specialized functions of different types of epithelial cells 185. Describe the structure of main types of cell junctions	Merged with above LOs
80	**Glandular Epithelium**	186. Enlist glandular epithelia 187. Classify them on the basis of morphology, nature of secretion and mode of secretion 188. Differentiate between exocrine & endocrine glands on the basis of structure and function.	LGD/1hr
81	**Epithelial Cell Surface Speci alization**	189. Describe the surface specialization of epithelia Correlate their structure, with their location and function	LGD/1hr
82	**Structure & Function of Basement Membrane**	190. Describe the structure of basement membrane & correlate it with its function.	LGD/1hr
83	**Connective tissue**	191. Define connective tissue. 192. Classify connective tissues. 193. Explain the different types of Connective tissues	LGD/1hr
PHYSIOLOGY			
84	**Autonomic Nervous System**	194. Describe the functions of the autonomic nervous system. 195. Compare and contrast the functions of sympathetic and para sympathetic nervous system. 196. Classify autonomic receptors.	LGD/2hrs

BIOCHEMISTRY			
85	**Structure and function of GAGS**	197. Describe the structure and function of GAGS and its clinical importance	LGD/combined with previous Los
PATHOLOGY			
86	**Necrosis**	198. Discuss the Process of necrosis 199. Explain the process of apoptosis 200. Differentiate between apoptosis and necrosis	LGD/1/2hr
87	**Inflammation**	201. Describe acute inflammation 202. Describe events of acute inflammation 203. Describe chronic inflammation 204. Differentiate between acute and chronic inflammation.	LGD/1/2hr

FORENSIC MEDICINE			
88	**Death**	205. Define death. 206. Describe stages of death. 207. Describe medico legal importance of stages of death.	LGD/1hr
LAB WORK			
89	**Tissue Processing**	208. Describe the process of tissue processing for histo pathological examination.	Demo/1hr
90	**Anatomical terms**	209. Demonstrate anatomical terms for planes, position and movements. 210. Demonstrate standard anatomical position and its application.	Demo/1hr
91	**H& E staining**	211. Perform H & staining of tissue slides under supervision in the laboratory	Practical/2hrs
92	**Simple Epithelia**	212. Identify and describe simple epithelia under M/S.	Practical/2hrs

93	**Stratified Epithelia**	213. Identify and describe stratified epithelia under M/S.	Practical/2hrs Continued in next module
94	**Glands**	214. Identify different types of glands under M/S.	Practical/2hrs Cont. in next module
95	**Smear preparation**	215. Prepare a blood smear.	Practical/2hrs Cont.in next module



7. Examination and Methods of Assessment:

7.1 INSTRUCTION:

7.1.1 Examination rules & regulations

- Student must report to examination hall/venue,in time for smooth conduction of the exams.
- No student will be allowed to enter the examination hall after 10 minutes of scheduled examination time.
- No students will be allowed to sit in exam without College ID Card, and Lab Coat
- Students must sit according to their roll numbers mentioned on the seats.
- Student must bring their own stationary items (Pen, Pencil, Eraser, and Sharpener) –Sharing is prohibited
- Any disturbance or Indiscipline in the exam hall/venue is not acceptable.
- Students must not possess any written material or communicate with their fellow students
- Cell phones are strictly not allowed in examination hall. If any student is found with cell phone in any mode (silent, switched off or on) he/she will be **not be allowed to continue their exam.**
- **No student is allowed to leave the examination hall before half the time is over, paper is handed over to the examiner and properly marking the attendance**.

7.2 Assessment:

7.2.1 INTERNAL:

- total 10% (24 marks)

- Students will be assessed comprehensively through multiple methods.
- 10% marks of internal evaluation will be added to the KMU annual professional exam.
- The marks distribution is based on Formative Assessment done individually by all the concerned departments. It may include:

- NOTE: **at least 75% attendance is mandatory** to appear in the annual university examination. Biochemistry department is responsible to maintain the attendance record for BLOCK –A in coordination with all the concerned departments.

7.2.2 UNIVERSITY EXAM:

- Exam has 90% (210) marks in total

UPDATED NOTICE FROM KMU:
Paper-A (Foundation and Blood module) 1st year MBBS.

Each written paper consists of 120 MCQs and internal assessment marks will be added to the final marks
Final distribution of MCQs for Foundation module, 1st year MBBS in Annual University Examination

Subject	FOUNDATION MODULE
Gross Anatomy	12
Histology	10
Embryology	15
Physiology	10
Biochemistry	14
PRIME including Research	5
Pharmacology	1
Pathology	2
Community medicine	1
Forensic medicine	0
Total MCQs	**70**

Final distribution of OSPE Stations for Foundation module ,1st year MBBS in Annual University Examination
Each OSPE/ VIVA station has 05 marks i.e. total of 50 marks for Foundation module. Internal assessment marks will be added to the final marks.

Subject	FOUNDATION MODULE		TOTAL STATIONS
	OSPE STATIONS	VIVA	
ANATOMY	**02**	**01**	**3**
Gross Anatomy			
Histology			
Embryology			
PHYSIOLOGY	**03**	**01**	**4**
BIOCHEMISTRY	**02**	**01**	**3**

Year 1 Professional Exam in System-based Curriculum-

THEORY PAPERS	MODULES	THEORY MARKS	INTERNAL ASSESSMENT THEORY(10%)	OSPE /VIVA	INTERNAL ASSESSMENT OSPE(10%	TOTAL MARKS
PAPER-A	FOUNDATION	120	14	90	10	234
	BLOOD					
PAPER-B	MSK	120	13	90	10	233
PAPER-C	CVS	120	13	90	10	233
	RESPIRATORY					
TOTAL MARKS		360	40	270	30	700

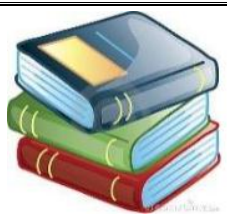
Shared by:
Dr Usman Mahboob MBBS, MPH, FHEA (UK), PhD (UK), Fellow FAIMER (USA)
Director Medical Education –Khyber Medical University Peshawar

Theory: University papers are MCQs based – their mark distribution and details are already shared in the Table of specifications. Please refer to that.

7.2.3. OSPE:

- The KMU recommendations are:

- Minimum 18 stations
- 12 stations include static and interactive stations.
- Subjectwise distribution is already shared
- **Time:** Minimum 3-6 minutes, including 1 minute for movement between the stations and reading the instructions.
- Faculty up to demonstrator/ SR level to be involved.
- 06 viva stations including viva with three internal and three external examiners for the major core subjects including Anatomy, Physiology and Biochemistry.
- One of the external examiner - Nominated as coordinator/ Convener by the University for observing the examination process.



8. Learning Opportunities and Resources

8.1 **INSTRUCTIONS:**

- ✓ Try to be regular in the classes as teacher is the best guide.
- ✓ Make your studies a primary goal as you have to deal with precious human lives.
- ✓ Stick to one book of your choice and stick the relavent high yield points from other sources to that single book of choice –it will make your examination and preps a lot easier
- ✓ Try to have as many sources of MCQ book as possible –it will help you focus on the most relevant and high yield knowledge.

8.2 Books:

CORE SUBJECTS	*RESOURCES*	*CHAPTERS/ pages*
ANATOMY	A. GROSS ANATOMY 1. Clinical Anatomy by Regions by Richard S. Snell 2. K.L. Moore, Clinically Oriented Anatomy 3. General Anatomy by BD Churissia B. HISTOLOGY 1. B. Young J. W. Health Wheather's Functional Histology C. EMBRYOLOGY 1. Keith L. Moore. The Developing Human 2. Langman's Medical Embryology B. REFERENCE BOOKS Gray's Anatomy for Students	General Anatomy Introduction of Anatomy pg1-44 Skeleton pg 47 Nervous System pg210 Skin &fasciae pg247 Radiography pg 283
BIOCHEMISTRY	A. TEXTBOOKS for 1ST PROFESSIONAL 1.Pankaja Naik Or 2. Satyanarayana & Chakrapani 3.MCQ's Books & OLD PAPERS B. REFERENCE BOOKS 1. Harper's Illustrated Biochemistry 2. Textbook of medical biochemistry by Chatterjee-8thEdition 3.Lehninger Principle of Biochemistry 4. Biochemistry by Devlin	Biochemistry by Chatterjee Cell pg 3 – 10 Biophysics pg 815 Chemistry of carbohydrates pg 23 - 40
PHYSIOLOGY	A. TEXTBOOKS 1. Textbook Of Medical Physiology by Guyton And Hall 2. Ganong ' S Review of Medical Physiology 3. Human Physiology by Lauralee Sherwood 4. Berne & Levy Physiology 5. Best & Taylor Physiological Basis of Medical Practice	GUYTON BOOK OF PHYSIOLOGY Cell ;page no11 to23 Transport across Cell Chapter 4; pg 45 to 52 Membrane potential pg 57 to 69 Homeostatis pg 451

	B. REFERENCE BOOKS 1. Guyton & Hall Physiological Review 2. Essentials Of Medical Physiology by Jaypee 3. Textbook Of Medical Physiology by InduKhurana 4. Short Textbook Of Physiology by Mrthur 5. NMS Physiology	

8.3 Other learning sources:

Hands-on Activities/ Practical	Students will be involved in Practical sessions and hands-on activities that link with the foundation and Blood modules to enhance the learning
Labs	Utilize the lab eg. Histology lab and Anatomy Museum, Biochemistry and Physiology labs. to relate the knowledge to the specimens and models available
Skill Labs	A skills lab provides the simulators to learn the basic skills and procedures. Drawing blood and different procedures at biochemistry and Physiology labs. This helps build the confidence to approach the patients
Videos	Lot of good academic high quality Videos are easily available on Youtube..Introduction of biochemistry by ninja nerd,Chemistry of CHO by Aarmand,Biochem by Dr Rajesh,Anatomy by Dr Najeeb,General Anatomy by BSN Pakistan.MBBSmedilecture by Dr junaid.
Computers Lab.	In the present day the students must be computer literate. Fortunately computer lab with internet faciliy is available on the campus. Students have the access to Digital library, various websites for articles and different topics. This can be an additional advantage to increase learning.
Self Learning	Self Learning is scheduled to search for information to solve cases, read through different resources and discuss among the peers and with the faculty to clarify the concepts

9. Timetables

SUBJECT	MODULE	TOPICS	TEACHER's NAME	MODE OR TEACHING	VENUE
ANATOMY	**Foundation**	Gross Anatomy	Dr.Sara Jadoon	LGD	Lecture Hall-1
		Embrtology	Dr.Robina Shaheen	LGD	Lecture Hall -1
		Histology	Dr.Sumaira Javed	LGD	Lecture Hall-1
	HISTOLOGY PRACTICALS		Dr Gul e Shawar		Histology Lab (1st Floor Biochemistry Dept)
	DISSECTION	Gross Anatomy	Dr.Shahid Farooq Dr . Ramla Malik Dr. Obaid Kazmi	SGD	Dissection Hall
BIOCHEMISTRY	FOUNDATION	Cell & Physio- chemical phenomena	Dr. Muhammad Idrees	Lecture/ LGD	Lecture Hall-1
		Nucleic Acid Chemistry	Dr. Hina Iftikhar	Lecture/ LGD	
		Carbohydrate Chemistry	Dr. Barrira Mumtaz	Lecture/ LGD	
	PRACTICALS	Details shared Carbohydrates Proteins &Lipids chemistry and MILK	Dr. Asma Rafique Dr. Maria Khan Dr Fizza Gul	Practicals performance and + Scheduled SGDs	Biochemistry Lab (Ground Floor) & Demo Room.
PHYSIOLOGY	FOUNDATION	Cell membrane physiology	Dr Aamir Dr.Maria	LGD	Lecture Hall-1
		Autonomoic nervous system		LGD	Lecture Hall -1
		Homeostasis		LGD	Lecture Hall-1
		Membrane potential		LGD	Lecture Hall-1
	PRACTICALS	Lab techniques		Demo/practical	
		Microscope		Demo/practical	

NOTE:
1-Venue or Teacher's Names May get changed (if Required)
2-Final Time table will be displayed on department/ classroom Notice Boards.
3- Please visit Notice Boards Everyday for being update

AYUB MEDICAL COLLEGE ABBOTTABAD
TIME TABLE OF 1ST YEAR MBBS CLASS FOR THE SESSION 2026
BLOCK-1 (FOUNDATION) WEEK-1- THEME-1 Orientation &Cell

DAYS	8.00…… 9.00	9.00… 10.00	10.00…..11.00	11.00…12.00	12.00 …12.45	12.45 ….1.15	1.15…….3.00			
							PRACTICAL			TUTORIAL/ SGD Library
							Anatomy/ Histology	Physiology	Biochemistry	
MONDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-1 Dr Aamir Cell Physio	Biochemistry-1 Dr Ruhila – Intro Dr Idrees-1 Cell & pH	PRIME-1 Psychiatry1 Ms Aisha Salim		**Anatomy/ Histology**	**B**	**C** **Dr Fizza**	**D**
TUESDAY	WELCOME/ ORIENTATION **(DME)**		Physiology-2 Dr Aamir Cell Physio	Biochemistry-2 Dr Barrira-1 CHO	Community Medicine-1 Intro- & Determinants of health Dr Ashfaq		**A** **Dr Gul e Shawar**	**C**	**D** **Dr Maria**	**A**
WEDNESDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-3 Dr Aamir Cell Physio	Embryology-1 Dr Robina Shaheen	PRIME-2 Psychiatry2 Ms Aisha Salim		**B** **Dr Gul e Shawar**	**D**	**A** **Dr Maria**	**B**
THURSDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-4 Dr Aamir Cell Physio	Biochemistry-3 Dr Idrees-2 Cell & pH	Gross Anatomy-1 Dr Sara Jadoon		**C** **Dr Gul e Shawar**	**A**	**B** **Dr Asma**	**C**
FRIDAY	**8.00……9.00** Histology-1 Dr Sumaira Javed	**9.00…..10.00** Biochemistry-4 Dr Hina -1 (Nucleic-Acid Chemistry)	Pathology 1 Introduction Dr Noreen	Forensic Medicine 1 Introduction Dr Salma Shazia	Pak. Studies1 Mr Manzoor	**PRAYER BREAK**	**HALF DAY**			

Proposed Date of Block Assessment: FRIDAY of week 7

AYUB MEDICAL COLLEGE ABBOTTABAD

TIME TABLE OF 1ST YEAR MBBS CLASS FOR THE SESSION 2026

BLOCK-1 (FOUNDATION) WEEK-2- THEME-2 Growth and development of Human body

DAYS	8.00..... 9.00	9.00... 10.00	10.00.....11.00	11.00…12.00	12.00 …12.45	12.45 ….1.15	1.15…….3.00			
							PRACTICAL			TUTORIAL/ SGD
							Anatomy/ Histology	Physiology	Biochemistry	BIOCHEMISTRY 6-7 Reactions of CHO
MONDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-5 Dr Aamir Cell Physio	Biochemistry-5 Dr Idrees-3 Cell & pH	Pathology 2 Cell Injury Dr Saman		**A** **Dr Gul e Shawar**	**B**	**C** **Dr Fizza**	**D** **Dr Barrira - 3+4**
TUESDAY	Histology -2 Dr Sumaira Javed	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid	Physiology-6 Dr Aamir Cell Physio	Biochemistry-8 Dr Barrira-2 CHO	Community Medicine-2 Disease Causation-1 Dr Ashfaq		**B** **Dr Gul e Shawar**	**C**	**D** **Dr Maria**	**A** **Dr Asma**
WEDNESDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-7 Dr Aamir Cell Physio	Embryology-2 Dr Robina Shaheen	PRIME-3 Psychiatry 3 Ms Aisha Salim		**C** **Dr Gul e Shawar**	**D**	**A** **Dr Maria**	**B** **Dr Fizza**
THURSDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-8 Dr Aamir Cell Physio	Biochemistry-9 Dr Idrees-4 Cell & pH	Embryology-3 Dr Robina Shaheen		**D** **Dr Gul e Shawar**	**A**	**B** **Dr Asma**	**C** **Dr Maria**
FRIDAY	**8.00…9.00** Histology -3 Dr Sumaira Javed	**9.00…..10.00** Biochemistry-10 Dr Hina -2 (Nucleic-Acid Chemistry)	Pathology 3 Necrosis Dr Noreen	Forensic Medicine 2 PMC & PMDC Dr Inayatullah	Islamiyat 1 Mr Aftab	PRAYER BREAK	**HALF DAY**			

Proposed Date of Block Assessment: FRIDAY Of Week 07.

AYUB MEDICAL COLLEGE ABBOTTABAD

TIME TABLE OF 1ST YEAR MBBS CLASS FOR THE SESSION 2026

BLOCK-1 (FOUNDATION) WEEK-3- THEME-3 Human body tissues, bones and Joints

DAYS	8.00…… 9.00	9.00… 10.00	10.00…..11.00	11.00…12.00	12.00 …12.45	12.45 ..1.15	1.15…….3.00			
							PRACTICAL			TUTORIAL/ SGD
							Anatomy/ Histology	Physiology	Biochemistry	BIOCHEMISTRY 12-13 Nucleic Acid
MONDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-9 Dr Aamir Cell Physio	Biochemistry-11 Dr Idrees-5 Cell & pH	PRIME-4 CM-1 Research Dr Zainab		**A** **Dr Gul e Shawar**	**B**	**C** **Dr Fizza**	**D** **Dr Hina -3+4**
TUESDAY	Histology-4 Dr Sumaira Javed	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid	Physiology-10 Dr Aamir Cell Physio	Biochemistry-14 Dr Barrira-5 CHO	Community Medicine-3 Disease Causation-2 Dr Ashfaq		**B** **Dr Gul e Shawar**	**C**	**D** **Dr Maria**	**A** **Dr Asma**
WEDNESDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-11 Dr Aamir Cell Physio	Embryology-4 Dr Robina Shaheen	PRIME-5 CM-2 Research Dr Zainab		**C** **Dr Gul e Shawar**	**D**	**A** **Dr Maria**	**B** **Dr Fizza**
THURSDAY	D I S S E C T I O N Batch A: Dr Obaid Batch B:Dr Ramla Batch C: Dr Shahid		Physiology-12 Dr Aamir Cell Physio	Biochemistry-15 Dr Barrira-6 CHO	Embryology-5 Dr Robina Shaheen		**D** **Dr Gul e Shawar**	**A**	**B** **Dr Asma**	**C** **Dr Maria**
FRIDAY	**8.00…9.00** Histology-5 Dr Sumaira	**9.00…..10.00** Biochemistry-16 Dr Hina -5 (Nucleic-Acid Chemistry)	PRIME-6 Surgery	Pharmacology 1 Transmembrane Drug transport Dr Adeel	Pak. Studies2 Mr Manzoor	**PRAYER BREAK**	**HALF DAY**			

MCQs for Block Assessment- REMINDER for FACULTY

Proposed Date of Block Assessment: FRIDAY Of Week 07.

Concerned Faculty is Requested to kindly maintain Formative internal assessment record of the students.

10. For inquiry and troubleshooting

Please contact

Associate Professor Dr Ayesha Awan -0333-7879702 ana.khyber@gmail.com

Assistant Professor Dr Sofia Shoukat - shoukatumar3@gmail.com

DEPARTMENT OF BIOCHEMISTRY

AYUB MEDICAL COLLEGE ABBOTTABAD.

11. Module Feedback Form

Course Title: _____

Module _____ Dates:_____

Please fill the short questionnaire to make the module better.

Please respond below with 1, 2, 3, 4 or 5, where 1 and 5 are explained.

THE DESIGN OF THE MODLUE

A. Were objectives of the module clear to you? Y ☐ N ☐

B. The module contents met with your expectations

1. Strongly disagree 5. Strongly agree ☐

C. The lecture sequence was well-planned

1. Strongly disagree 5. Strongly agree ☐

D. The contents were illustrated with

1. Too few examples 5. Adequate examples ☐

E. The level of the module was

1. Too low 5. Too high ☐

F. The module contents compared with your expectations

1. Too theoretical 5. Too empirical ☐

G. The module exposed you to new knowledge and practices

1. Strongly disagree 5. Strongly agree ☐

H. Will you recommend this module to your colleagues?

1. Not at all 5. Very strongly ☐

THE CONDUCT OF THE MODLUE

A. The lectures were clear and easy to understand

1. Strongly disagree 5. Strongly agree ☐

B. The teaching aids were effectively used

1. Strongly disagree 5. Strongly agree ☐

C. The module material handed out was adequate

1. Strongly disagree 5. Strongly agree ☐

D. The instructors encouraged interaction and were helpful

1. Strongly disagree 5. Strongly agree ☐

E. Were objectives of the module realized? Y ☐ N ☐

F. Please give overall rating of the module

90% - l00%	( )	60% - 70%	( )
80% - 90%	( )	50% - 60%	( )
70% - 80%	( )	below 50%	( )

Please comment on the strengths of the module and the way it was conducted.

Please comment on the weaknesses of the module and the way it was conducted.

Please give suggestions for the improvement of the module.

Optional – Your name and contact address:

Thank you!!