Dow University of Health Sciences

FOUNDATION II MODULE

STUDY GUIDE

Third Year MBBS

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INTRODUCTION

WHAT IS A STUDY GUIDE?

A study guide provides a focus for different educational activities in which the students are engaged. It equips students with information on the topic of study and assists in management of student learning. Furthermore, it imparts relevant information about the organization of the module and thus helps students organize their educational activities accordingly. Another important purpose of a study guide is the dissemination of information about rules and policies and teaching and assessment methods.

HOW DOES A STUDY GUIDE HELP LEARNERS?

- Includes information on organization and management of the module.
- Advises the learners about representatives who can be contacted in case of need.
- Defines the outcomes and objectives which are expected to be achieved at the end of the module.
- Elaborates the teaching and learning strategies which will be implemented during the module.
- Inform learners about the learning resources in order to maximize their learning.
- Provides information about the assessment methods that will be held to determine every student's achievement of objectives.

CURRICULUM MODEL:

Integrated modular curriculum is followed at Dow University of Health Sciences for MBBS program. This implies that instead of studying basic and clinical sciences separate and apart, students will experience a balanced and integrated combination of basic and clinical sciences in the form of a system –based modules.
The modular curriculum followed by Dow University of Health Sciences is integrated both in the vertical and the horizontal directions. However, in order to prepare the students for clinical teaching with a sound background knowledge of the basic sciences, the curriculum has been divided in three spirals.
The three spirals are:

1. Spiral -1 Basic Sciences
2. Spiral -2 Clinical Sciences
3. Spiral -3 Integrated Supervised Practical Training

The Basic Sciences Spiral is spread over the first two years and Clinical Sciences Spiral is distributed over the next two years. In the final year students are given practical hands-on training in the role similar to that of a shadow house officer. The whole curriculum is divided into modules, each module being related to a particular system. For example, Cardiovascular 1 module is in the Basic Sciences Spiral-1 and Cardiovascular 2 module is in the Clinical Sciences Spiral-2 and the relevant practical and clinical teaching/learning will be accomplished in Final year Spiral-3.

TEACHING & LEARNING METHODOLOGIES:

The following teaching/ learning methods may be used to facilitate the learning process:

1. **Interactive Lectures**: Lectures are considered as an efficient means of transferring knowledge to large audiences.

2. **Small Group Discussion**: Small group discussion such as Demonstrations, tutorials and case- based learning (CBL) sessions facilitate interactive learning which helps students develop discussion skills and critical thinking.

3. **Practicals**: Practical related to Basic Sciences are held to facilitate student learning.

4. **Skills**: Skills sessions are scheduled parallel with various modules at fully equipped Skills Lab and Simulation Lab in which students observe and learn skills relevant to the respective modules under guidance of Clinical Faculty.

5. **Self-Directed Learning (Self- Study)**: Students have a measure of control over their own learning. They diagnose their needs, set objectives in accordance to their specific needs, identify resources and adjust their pace of learning

5 YEAR CURRICULAR ORGANIZATION

<table>
<tr><th>Spiral</th><th>year</th><th colspan="5">Modules</th></tr>
<tr><td rowspan="5">First Spiral</td><td rowspan="2">I</td><td colspan="3">FND1- Foundation
Cell, Genetics & Cell Death
(Basics of Anatomy, Physiology, Biochemistry, Gen. Pathology, Gen. Pharmacology, Community Medicine & Behavioral Sciences,

9 Weeks</td><td colspan="2">HEM1- Blood Module
Immunity, Inflammation, Tissue repair, Antimicrobials & Neoplasia
9 Week</td></tr>
<tr><td colspan="3">LCM1- Locomotion
Bones, Joints, Nerves & Muscles, 9weeks</td><td>RSP1- Respiratory System 6 weeks</td><td>CVS1- Cardiovascular System 4 weeks</td></tr>
<tr><td rowspan="2">II</td><td colspan="3">NEU1- Nervous System
8 weeks</td><td>HNN1- Head & Neck & Special 6 weeks</td><td>END1- Endocrinology 5weeks</td></tr>
<tr><td colspan="3">GIL 1-GIT and Liver
8 weeks</td><td>EXC1- Renal and Excretory System</td><td>REP1- Reproductive System 5 weeks</td></tr>
<tr><td rowspan="4">Second Spiral</td><td rowspan="2">III</td><td>Foundation 2
2 wks</td><td>IDD 1- Infectious diseases 6 weeks</td><td>HEM2- Hematology 5 weeks</td><td>RSP2- Respiratory System 5 weeks</td><td>CVS2- Cardiovascular System4 weeks</td></tr>
<tr><td colspan="3">GIL 2-GIT and Liver (including Nutritional Disorders)
8weeks</td><td>EXC2- Renal & Excretory System 4 weeks</td><td>END2- Endocrinology 5 weeks</td></tr>
<tr><td rowspan="2">IV</td><td colspan="2">ORT2- Orthopedics, Rheumatology, Trauma
7 weeks</td><td colspan="2">PMR-Physical Medicine & Rehabilitation
DPS-Dermatology Plastic Surgery / Burns
GEN-Genetics6 weeks</td><td>REP2- Reproductive System
8 Weeks</td></tr>
<tr><td colspan="3">NEU2- Neurosciences and Psychiatry
8 weeks</td><td>ENT*
4 weeks</td><td>OPHTHALMOLOGY/EYE
4 weeks</td></tr>
<tr><td>Third Spiral</td><td>V</td><td colspan="3">Clinical Rotation 9:45 to 3:00 (with Ambulatory, Emergency, Intensive care)
In Medicine, Pediatrics, Cardiology and Neurology units
▪ Lecture on problem based approach, twice a week
▪ Ward tutorial twice a week
▪ Student research presentation once a week</td><td colspan="2">Clinical Rotation 9:45 to 3:00
(Inpatient, Ambulatory, Emergency, Intensive care and Operation Theatres)
In Surgery, Gynecology & Obstetrics, Orthopedics and Neurosurgery.
▪ Lecture on problem based approach, twice a week
▪ Ward tutorial twice a week
▪ Student research presentation once a week</td></tr>
</table>

OVERVIEW

Program	**MBBS**	
Year	Three	
Module Title	Foundation II	
Module Code	FND-II	
Contact Hours		
Duration	2 weeks	
	Pathology	17
	Pharmacology	10
	Forensic Medicine	4.5
Total Hours	Foundation II Module	31.5

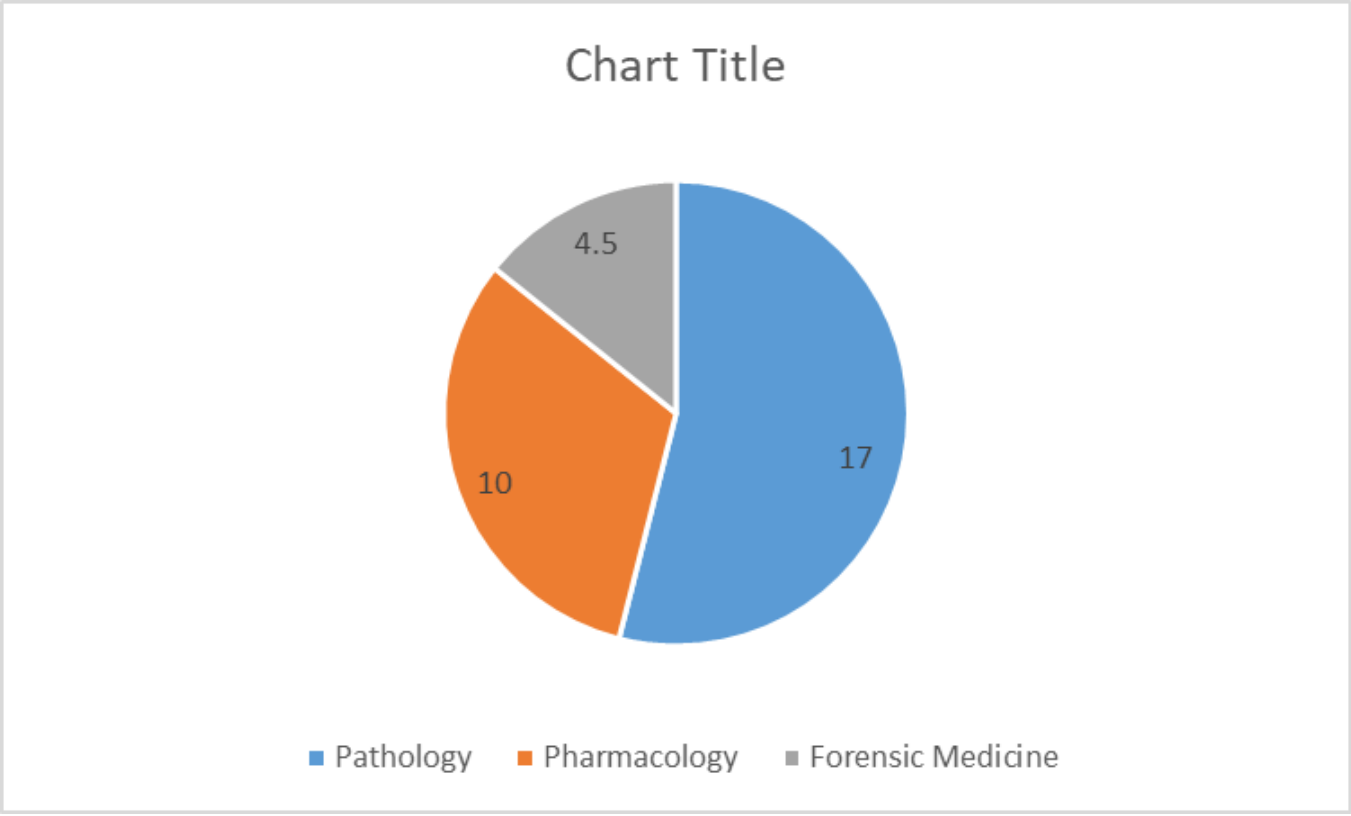
Chart Title
4.5
17
10
Pathology
Pharmacology
Forensic Medicine

INTEGRATED MODULE COMMITTEE

RESPONSIBILITIES	NAMES	DESIGNATION	EMAILS
Chairperson Curriculum Committee, DUHS Chief Module coordinator	Prof. Naheed Khan	Prof. and Chairperson Anatomy	naheed.khan@duhs.edu.pk
Coordinator DIMC	Dr. Mehreen Fatima	Assistant Professor	mehreen.fatima@duhs.edu.pk
Co-coordinator DMC	Dr. Sadia Iqbal	Assistant Professor	saadia.iqbal@duhs.edu.pk
Department	**RESOURCE PERSON**	**DESIGNATION**	**EMAILS**
Medical Education	Dr Munizha Nisar	Medical Simulation Facilitator	munizha.nisar@duhs.edu.pk

MODULE DESCRIPTION:

This module has been designed for students to recap their knowledge and understanding of basic concepts of pathology and pharmacology. The students will also be introduced to some foundational concepts of Forensic Medicine and Toxicology in this module. This module includes Pathology, Microbiology, Pharmacology and Forensic Medicine.

Lectures, tutorials, small group sessions including CBL and practicals are important components of this module. This study guide has been developed to assist the students and keep them focused to achieve their goals.

RATIONALE:

This module is developed to refresh the knowledge gained from Foundation I module. As the students are about to enter their clinical years and will be constructing new concepts based on their prior knowledge gained during the first two years. The revisits of the topics will enable them to comprehend the new concepts and will help them integrate their knowledge of basic sciences with clinical sciences in a better manner.

Moreover, the advanced topics of general Pharmacology and Pathology are all dealt with in this module. The knowledge of these topics will be applied in the understanding and learning of modules of spiral 2 (e.g. CVS 2, Respiration 2, GIT 2, Neurosciences 2 Reproduction 2 etc.).

Learning Objectives	Discipline	Topics	T/L	Assessment	Contact hours
Learning Outcome: Explain the mechanisms involved bacterial and viral genetics and diagnose major bacterial and viral infections					
• Describe the genetic makeup of bacteria and viruses. • Enlist major laboratory diagnostics available for bacterial and viral diseases • Describe the working of bacterial and viral vaccines.	**Pathology**	• Bacterial Genetics • Lab Diagnosis of Bacterial Infections • Bacterial Vaccines • Viral Genetics and Gene Therapy • Lab Diagnosis of Viral Infections • Viral Vaccines	Interactive Lecture	BCQs/OSPE/Structured Viva	6 Hrs
Learning outcome: Describe the working of immune system and identify major autoimmune and diseases and immunodeficient states.					
• Recall the structure and organization of immune system. • Explain the role of leukocytes in acute inflammation. • Describe immunodeficiency states and development of autoimmunity	**Pathology**	• Innate and Acquired Immunity and its Significance in Infectious Diseases • The Role of Leukocytes in Acute Inflammation • Immunodeficiency States • Autoimmune Diseases Mechanism	Interactive Lecture	BCQs/OSPE/Structured Viva	4 Hrs

Learning outcome: Explain the process of development of tumors at a molecular level					
• Explain the genesis of Tumors. • Describe the molecular phenomena related to development of Cancer • Explain the host defense mechanism against the development of cancer	**Pathology**	• Tumor Viruses • Molecular Basis of Cancer 1 • Molecular Basis of Cancer 2 • Host Defense against Tumors. Tumor Immunity	Interactive Lecture	BCQs/OSPE/ Structured Viva	4 Hrs
Learning outcome: Identify principles and practices related to Good Laboratory Practice, Biosafety and Biosecurity					
• Recall the principles of Good Laboratory Practice. • Describe the practices related to Biosafety and Biosecurity in Pathological Laboratory	**Pathology**	• Good Laboratory Practice • Biosafety and Biosecurity	• Practical • Practical	BCQs/OSPE/Structured Viva	3 Hrs
Learning outcomes: Describe basic concepts of pharmakodymamics/pharmacokinetics					
• Classify different routes of drug administration & explain its advantages as well disadvatages • Explain different pharmacokinetic parameters of drug absorption,distribution, metabolism and excretion • Understand the different types of receptors & its mechanism related to different drugs	**Pharmacology**	• Routes of administration of drugs • Pharmaco-kinetics-I (Absorption,bio availability,distribution & re-distribution of Drugs) • Pharmaco-kinetics-II (Biotransformation,Excretion of Drugs &factors affecting the excretion of Drugs)	Interactive lectures	BCQs	5 hrs

		• Pharmaco-dynamics-I (Receptor classification,types and mechanism of drug actions) • Pharmaco-dynamics-II (Signaling mechanism of G-protein)			
Learning outcome Describe the pharmacology of drugs acting on autonomic nervous system					
• Differentiate between sympathetic & parasympathetic nervous system • Explain cholinergic agonists & antagonists drug and its clinical indications • Explain the concepts of clinical applications of adrenergic agonists as well as adrenergic antagonist drugs	**Pharmacology**	• Pharmacological classification of Autonomic nervous system(ANS) • Pharmacology of Cholinergic agonist drugs • Pharmacology of Cholinergic antagonist drugs • Pharmacology of Adrenergic agonist drugs • Pharmacology of Adrenergic antagonist drugs	Interactive Lecture	BCQs	5 Hrs
Learning outcome: Describe basic concepts of Forensic Medicine and toxicology					

• Describe basics terms related to Forensic Medicine and Toxicology • Enumerate the branches of Forensic Sciences • Explain the importance and utility of Forensic Medicine and Toxicology and its branches, in medical, legal and ethical issues	**Forensic Medicine**	• Introduction to Forensic Medicine • General toxicology I • General Toxicology II • How to write a medico legal report	Lecture Lecture Lecture Practical	BCQs	4.5 hrs
Learning outcome: Demonstrate correct method of history taking of three specific symptoms fever, diarrhea and cough.					
• Obtain information useful in formulating a diagnosis and providing appropriate medical care to the patient.	**Skill lab**	• HISTORY TAKING SKILLS		OSCE	1.5
The contents are subjected to be altered according to requirement of academic calendar					

Learning Resources

S. No	Subject	Readings
1	**PATHOLOGY**	• ROBBINS BASIC PATHOLOGY KUMAR &ABBAS 9TH EDITION • ROBBINS & COTRAN PATHOLOGIC BASIS OF DISEASE (REFERENCE BOOK) KUMAR & ABBAS & ASTER 9th EDITION
2	**MICROBIOLOGY**	• REVIEW OF MEDICAL MICROBIOLOGY AND IMMUNOLOGY WARREN LEWINSON 14th EDITION
3	**PHARMACOLOGY**	• LIPPINCOTT'S ILLUSTRATED REVIEW PHARMACOLOGY KAREN WHALEN 6th or Latest Edition • BASIC AND CLINICAL PHARMACOLOGY (REFERENCE BOOK) BERTRAM G. KATZUNG 11th EDITION
4	**FORENSIC MEDICINE**	• PRINCIPLES AND PRACTICE OF FORENSIC MEDICINE NASIB R.AWAN 1 ST EDITION

ASSESSMENT

Assessment will be done in two parts

(At end of the module)

- Module Exam Theory…….20% weightage
- Module Practical Internal Evaluation …….. ……20% weightage

(At end of the Year)

- Annual Module Exam Theory……..80% weightage
- OSCE/VIVA…… …….. ……80% weightage

MCQs (Multiple choice questions), OSCE (Objective Structured Clinical Exam) and structured viva will be the main assessment tool.