

# Dow University of Health Sciences



**PHYSICAL MEDICINE & REHABILITATION (PMR)**  
**DERMATOLOGY/ PLASTIC SURGERY / BURNS (DPS)**  
**GENETICS MODULE (GEN)**  
**Fourth Year MBBS**

## 5 YEAR CURRICULAR ORGANIZATION

Spiral	year	Modules			
<b>First Spiral</b>	I	<b>FND1- Foundation</b> Cell, Genetics & Cell Death (Basics of Anatomy, Physiology, Biochemistry, Gen. Pathology, Gen. Pharmacology, Community Medicine & Behavioral Sciences) <b>6 Weeks</b>		<b>Foundation Sub Module</b> Genetics, Microbiology, Bioethics <b>2 Weeks</b>	<b>HEM1- Blood Module</b> Immunity, Inflammation, Tissue repair, Antimicrobials & Neoplasia 8 Week
		<b>LCM1- Locomotion</b> Bones, Joints, Nerves & Muscles, 8 weeks		<b>RSP1- Respiratory System</b> 4 weeks	<b>CVS1- Cardiovascular System</b> 4 weeks
	II	<b>NEU1- Nervous System</b> 8 weeks		<b>HNN1- Head &amp; Neck &amp; Special</b> 4 weeks	<b>END1- Endocrinology</b> 4 weeks
		<b>GIL 1-GIT and Liver</b> 8 weeks		<b>EXC1- Renal and Excretory System</b> 4 weeks	<b>REP1- Reproductive System</b> 4 weeks
<b>Second Spiral</b>	III	<b>IDD 1- Infectious diseases</b> 4 weeks	<b>HEM2- Hematology</b> 4 weeks	<b>RSP2- Respiratory System</b> 4 weeks	<b>CVS2- Cardiovascular System</b> 4 weeks
		<b>GIL 2-GIT and Liver (including Nutritional Disorders)</b> 8weeks		<b>EXC2- Renal &amp; Excretory System</b> 4 weeks	<b>END2- Endocrinology</b> 4 weeks
	IV	* Ophthalmology and ENT will run parallel and twice (3 weeks each) after splitting the batch in two halves			
		<b>ORT2- Orthopedics, Rheumatology, Trauma</b> 7 weeks		<b>PMR-Physical Medicine &amp; Rehabilitation</b> <b>DPS-Dermatology/ Plastic Surgery / Burns</b> <b>GEN-Genetics</b> 6 weeks	
		<b>REP2- Reproductive System</b> 8 Weeks	<b>NEU2- Neurosciences and Psychiatry</b> 8 weeks	<b>OPH / ENT*</b> 3 week	<b>ENT/OPH *</b> 3 week
<b>Third Spiral</b>	V	Half of the class will cover Medicine & Allied and the other half will cover Surgery & Allied modules in first half of teaching session. The two halves will exchange in latter half of year.			
		Clinical Rotation 8:30 to 1:00 (with Ambulatory, Emergency, Intensive care) In Medicine, Pediatrics, Cardiology and Neurology units <ul style="list-style-type: none"> <li>▪ Lecture on problem based approach, twice a week</li> <li>▪ Ward tutorial twice a week</li> <li>▪ Student research presentation once a week</li> </ul>		Clinical Rotation 8:30 to 1:00 (Inpatient, Ambulatory, Emergency, Intensive care and Operation Theatres) In Surgery, Gynae & Obstetrics, Orthopedics and Neurosurgery. <ul style="list-style-type: none"> <li>▪ Lecture on problem based approach, twice a week</li> <li>▪ Ward tutorial twice a week</li> <li>▪ Student research presentation once a week</li> </ul>	
		<b>PARALLEL THEMES:</b> The following themes are not part of any individual module but shall run concurrently:Communication Skills, Clinical Skills, Writing and Presentation Skills, Article Writing, Ethics			

## **RATIONALE**

Undergraduate medical education has traditionally focused on curative approaches to acute illnesses and injuries. Rehabilitation is the process of helping a person to reach the fullest physical, psychological, social, vocational, vocational, and educational potential consistent with his or her physiologic or anatomic impairment, environmental limitations, desires and life plans. This rehabilitation module provides the basic understanding of physical therapy, occupational therapy and rehabilitation of patients along with the social and psychological barriers faced by the disabled persons and the ways to overcome these.

Skin is the largest organ of the body. Its exposed position makes it susceptible to a large number of disorders which include allergic conditions, infections, tumors and involvement in metabolic disorders. Some of these require surgical management. In this dermatology and Plastic surgery module the student shall gain the understanding of skin diseases, their clinical presentation, diagnosis and their management. The student shall also learn about the surgical aspects in the Plastic surgery component.

## **MODULE OUTCOMES**

- Graduates of the MBBS Course shall be able to develop mature attitudes and behavior towards people with disability and their families
- Graduates of the MBBS Course shall be able to understand the principles of treating and managing the disabling effects of long term conditions, in particular recognizing the role of interdisciplinary team work with other professions (nursing and therapy)
- Graduates of the MBBS Course shall be able to show improved confidence, attitudes and skills in treating common dermatological problems
- Graduates of the MBBS Course shall be able to identify the common genetic disorders and manage appropriate referrals

## **MODULE OBJECTIVES**

### **PHYSICAL MEDICINE, REHABILITATION**

- By the end of this module, 4th-year undergraduate medical students should be able to:
- Describe the concept of rehabilitation medicine
  - Define and distinguish between impairment, disability and handicap
  - Describe the goal of rehabilitative functional evaluation is to restore handicapped people to fullest possible physical, mental, social & economic independence
  - Diagnose, assess and prevent disabilities
  - Discuss the rehabilitative management of stroke
  - Enlist active range of motion exercises
  - Conditioning exercises of non-amputee extremities. Muscle strengthening of bilateral upper & lower limbs
  - Explain the role of assistive technology in rehabilitation medicine
  - Perform Rehabilitation counseling of patients
  - Replace parts lost by injury or missing from birth or to supplement defective lower body parts
  - Perform the attachment of body segment to improve function by controlling motion, providing support through stabilizing gait
  - Explain the postural education to Avoid immobility, care of fragile skeleton. Discuss the Management of Dietary measures and Prevention of fall application of Orthotics
  - Formulate the rehab management of common neurological, musculoskeletal and cardiac problems.

### **SKIN**

By the end of this module, 4th-year undergraduate medical students should be able to:

- Recognize the clinical presentations of common Skin diseases in the community.
- Diagnose these diseases on the basis of history, examination and clinical investigations.
- Identify the preventive measures for counseling their patients.
- Practice basic principles of management of common disease and make appropriate referral.
- Recognize of the prognosis to counsel their patients.
- Be aware of the specific diagnostic tools for Skin diseases, and their interpretation.

## **PLASTIC SURGERY/BURNS**

By the end of this module, 4th-year undergraduate medical students should be able to:

- Enlist the type of skin and its behavior after injuries like pigmentation, hypertrophic scar and Keloid.
- Enumerate the relevant investigation in a given scenario including blood investigations, relevant X-ray, Echo, CT and MRI scan.
- Diagnose the type of wound and its management.
- Enlist the different skin lesion and tumor and its management on the basis of local and regional flaps.
- Discuss the axial pattern flap for distant area coverage.
- Explain the biological and artificial skin for coverage.
- Describe the acute burn care.
- Discuss how the graft applied

## **GENETICS**

By the end of this module, 4th-year undergraduate medical students should be able to:

- Recall important principles that can characterize single-gene diseases
- Interpret scenarios about multifactorial inheritance.
- Demonstrate understanding of structural chromosome abnormalities
- Explain role of gene-environment interaction in disease.
- Solve problems concerning genotype and allele frequencies
- Interpret scenarios about factors responsible for genetic variation in/among populations

## **MODULE CONTENTS**

### **PHYSICAL MEDICINE & REHABILITATION**

S.No	Topic		Teaching hours
1	Rehab Medicine + Impairment, Disability, Handicap	Lecture	1
2	Evaluation Rehabilitation	Lecture	1
3	Prosthesis Lower Extremity	Lecture	1
4	Prosthesis upper Extremity	Lecture	1
5	Orthoses (Upper Extremity & Lower Extremity	Lecture	1
6	Management of amputee	Lecture	1
7	Cardiac Rehabilitation	Lecture	1
8	Musculoskeletal Rehabilitation	Lecture	1
9	Peadiatric rehabilitation	Lecture	1

### **ANATOMY**

S.No	Topic		Teaching hours
1	Appendages of skin	Lecture	1

### FORENSIC MEDICINE

S.No	Topic		Teaching hours
1	Dermatological Manifestations in Cases of Various Poison	Lecture	1

### COMMUNITY MEDICINE

S.No	Topic		Teaching hours
1	Scabies and Lice	Lecture	1
2	Burns risk factors & prevention	Lecture	1
3	Sports Medicine	Lecture	1
4	Accidents and injuries	Lecture	1
5	Disaster management	Lecture	1
6	Rehabilitation	Tutorial	1.5
7	Health management and Planning Cycle	Tutorial	1.5
8	Monitoring & Evaluation	Tutorial	1.5

### PATHOLOGY

1	Pathophysiology of Inheritance of (Downs, Turners, Cystic fibrosis, Thalassemia, Sickle cell Anemia)	Lecture	1 Hr
2	Pathophysiology of Single Gene Disorders	Lecture	1 Hr
3	Marfan's Syndrome: Disease and Pathogenesis	Lecture	1 Hr

4	Cytogenetic Disorders Involving Sex chromosomes	Lecture	1 Hr
5	Mutagens and Mutations	Practical	1 Hr 30 Min
6	Pathological Effects of Inborn Errors of Metabolism	Lecture	1 Hr
7	Genetic Techniques in Disease Diagnostics-1 (PCR, RFLP, ELISA)	Lecture	1 Hr
8	Genetic Techniques in Disease Diagnostics-2 (FISH, Arrays, Blotting)	Lecture	1 Hr
9	Pathogenic Effects of Mitochondrial Disorders	Lecture	1 Hr
10	Prenatal Diagnosis	Lecture	1 Hr

## BIOCHEMISTRY

S.No.	Topic		Teaching hours
1	DNA, RNA, Transcription, Translation & Protein synthesis	Lecture	1
2	Mode of Transmission/ Patterns of Inheritance	Lecture	1
3	Single gene disorders	Lecture	1
4	Multifactorial disorders	Lecture	1
5	Population Genetics	Lecture	1
6	Genetic and environmental interaction	(Tutorial)	1.5
7	Cytogenetics Numerical and structural abnormalities of Chromosomes	Lecture	1



## DERMATOLOGY

S.No.	Topic		Teaching duration
1	Basic skin lesion	Lecture	1
2	Diagnosis and management of Scabies and pediculosis	Lecture	1
3	Diagnosis and management Lichen planus	Lecture	1
4	Diagnosis and management of Acne vulgaris	Lecture	1
5	Diagnosis and management of Psoriasis vulgaris	Lecture	1
6	Diagnosis and management of Eczema	Lecture	1
7	Common Cutaneous Viral infection	Lecture	1
8	Tenia capitis	SBL	1.5

## BURNS

S.No.	Topic		Teaching duration
1	Etiology, Pathophysiology of Burns	Lecture	1
2	Special types of Burns	Lecture	1
3	Management Of Burns, Shock and Burn Wounds	Lecture	1

## PLASTIC SURGERY

S.No.	Topic		Teaching duration
-------	-------	--	-------------------

1	Skin Grafting and Skin Substitutes	Lecture	1
2	Flaps And Tissue Expander	Lecture	1

### PHARMACOLOGY

S.No.	Topic		Teaching duration
1	Anti-fungal drugs	Lecture	1
2	Drug treatment of psoriasis	Lecture	1
3	Drug treatment of scabies & eczema	Lecture	1
4	Dermatological systemic & topical drugs	Tutorial	1.5
5	Antiseptic and disinfectants	Tutorial	1.5

### SURGERY

S.No.	Topic		Teaching duration
1	Management of Skin Tumors	Lecture	1

### MEDICINE

S.No.	Topic		Teaching duration
1	Gene therapy and counseling	Lecture	1

<b>CONTACT HOURS (DISCIPLINE WISE)</b>	
<b>Discipline</b>	<b>Contact Hours</b>
<b>Anatomy</b>	<b>1</b>
<b>Physical medicine &amp; Rehabilitation</b>	<b>9</b>
<b>Pathology</b>	<b>10.5</b>
<b>Pharmacology</b>	<b>6</b>
<b>Community Medicine</b>	<b>9.5</b>
<b>Dermatology</b>	<b>8.5</b>
<b>Biochemistry</b>	<b>7.5</b>
<b>surgery</b>	<b>6</b>
<b>Forensic Medicine</b>	<b>3</b>
<b>Medicine</b>	<b>1</b>
	<b>1</b>

## BOOKS

### ANATOMY

- **CLINICALLY ORIENTED ANATOMY**  
**KEITH.L.MOORE, Arthur F. Dalley, Anne M.R. Agur**  
**7<sup>th</sup> or Latest EDITION**
- **GRAY'S ANATOMY FOR STUDENTS**  
**Drake & Vogl & Mitchell**  
**3<sup>rd</sup> or Latest EDITION**
- **CLINICAL ANATOMY BY REGIONS (REFERENCE BOOK)**  
**Richard S. SNELL**  
**9<sup>th</sup> EDITION**
- **LAST'S ANATOMY: REGIONAL & APPLIED (REFERENCE BOOK)**  
**Chummy S. Sinnatamby**  
**12<sup>th</sup> or Latest EDITION**
- **ATLAS OF HUMAN ANATOMY**  
**FRANK H.NETTER**  
**6<sup>th</sup> EDITION**

### HISTOLOGY

- **MEDICAL HISTOLOGY**  
**LAIQ HUSSAIN SIDDIQUI**  
**5<sup>TH</sup> or Latest EDITION**
- **WHEATERS FUNCTIONAL HISTOLOGY**  
**BARBARA YOUNG**  
**5<sup>th</sup> EDITION**
- **BASIC HISTOLOGY( TEXT AND ATLAS) (REFERENCE BOOK)**  
**LUIZ JUNQUEIRA, JOSE CARNEIRO**  
**11<sup>th</sup> or Latest EDITION**

## BIOCHEMISTRY

- LIPPINCOTT'S ILLUSTRATED REVIEWS SERIES  
[DENISE R. FERRIER](#)  
6th EDITION
- HARPERS ILLUSTRATED BIOCHEMISTRY (REFERENCE BOOK)  
[VICTOR RODWELL, DAVID BENDER, KATHLEEN M. BOTHAM, PETER J. KENNELLY,](#)  
[P. ANTHONY WEIL](#)  
28<sup>th</sup> EDITION

## PATHOLOGY

- ROBBINS BASIC PATHOLOGY  
[KUMAR & ABBAS](#)  
9TH EDITION
- ROBBINS & COTRAN PATHOLOGIC BASIS OF DISEASE (REFERENCE BOOK)  
[KUMAR & ABBAS & ASTER](#)  
9<sup>th</sup> EDITION

## COMMUNITY MEDICINE

- PUBLIC HEALTH AND COMMUNITY MEDICINE  
[SHAH, ILYAS, ANSARI](#)  
7<sup>th</sup> EDITION

## PHARMACOLOGY

- LIPPINCOTT'S ILLUSTRATED REVIEW PHARMACOLOGY  
[KAREN WHALEN](#)  
6<sup>th</sup> or Latest Edition
- BASIC AND CLINICAL PHARMACOLOGY (REFERENCE BOOK)  
[BERTRAM G. KATZUNG](#)  
11<sup>th</sup> EDITION

## MEDICINE & MEDICAL SPECIALTIES

- **PRINCIPLES & PRACTICE OF MEDICINE DAVIDSON'S  
22nd or Latest Edition**
- **ESSENTIALS OF KUMAR AND CLARK'S CLINICAL MEDICINE  
KUMAR & CLARK 9th or Latest Edition**
- **MACLEOD'S CLINICAL EXAMINATION DOUGLAS & NICOL &  
ROBERTSON 13TH or Latest Edition**
- **HUTCHISON'S CLINICAL METHODS WILLIAM M DRAKE & MICHAEL  
GLYNN 23rd or Latest Edition**

## SURGERY & SURGICAL SPECIALTIES

- **SHORT PRACTICE OF SURGERY ROBERT JOHN MCNEILL LOVE,  
HENRY HAMILTON BAILEY 26TH EDITION or Latest Edition**
- **CURRENT DIAGNOSIS AND TREATMENT SURGERY GERARD M.  
DOHERTY 14TH OR LATEST EDITION**
- **BROWSE'S INTRODUCTION TO THE SYMPTOMS & SIGNS OF  
.....  
.....**

Prepared by:

Chairperson Curriculum Review Committee and Chief Module

Coordinator: Prof. Naheed Khan

([naheed.khan@duhs.edu.pk](mailto:naheed.khan@duhs.edu.pk))

Module Coordinator: Dr. Arisha Sohail

([arisha.sohail@duhs.edu.pk](mailto:arisha.sohail@duhs.edu.pk))