



Course Syllabus - MBBCh

1. Course title: General Module		course code: GEN21
2. Credit/contact hours:	166 Theory 139 Practicals 27	
3. Number of weeks	7	
4. Level/year at which this course is offered:	2 nd Year Semester1	
5. Pre-requisites for this course (if any): Anatomy Physiology Biochemistry		
6. Co-requisites for this course (if any): Microbiology Pathology Parasitology Community Medicine		

Course Description

The Aim of the module is to introduce the subjects of General Pharmacology, Pathology, Microbiology, Parasitology and Community Medicine to the students.

General Pharmacology

This course provides basic knowledge of general pharmacology including the subdivisions of pharmacokinetics and pharmacodynamics of drugs and helps to understand the mechanism and occurrence of the various drug interactions and adverse reactions.

General Pathology

This course provides basic knowledge and understanding of general pathology through elaborating common pathological processes, common diseases, their etiology, mechanisms, morphology, clinical features, and complications. It provides the students with the necessary information required for planning patients' treatment and for developing proper preventive strategies.

General Microbiology

This course describes the basic structure of bacteria, viruses and Molds and explains physiology, replication and immunopathogenesis of all microbes (bacteria, viruses and molds)

General Parasitology

This course provides basic knowledge of Parasitology to become familiar with the terminology and classification of medically important parasites

Community Medicine

This Course provides basic knowledge of the principles of epidemiology of communicable diseases and non-communicable diseases and list steps of surveillance infection control steps

Course Learning Outcomes

CLOs		Aligned-PLOs
GEN21	Upon completion of the course the student will be able to	
	Knowledge	
K1	Describe the basic structure of bacteria, viruses and molds	A1
K2	Describe the methods used for laboratory diagnosis of bacteria, viruses, yeasts and molds	A1
K3	Describe the types of medically important parasites and hosts	A1
K4	Describe the gross and microscopic changes induced by common diseases	A1
K5	Explain the etiology and pathogenesis of common diseases in human body	A1
K6	Discuss the morphological features of common diseases with their prognosis	A1
K7	Describe the sources, routes pharmacokinetics and pharmacodynamics of drugs	A1
K8	Describe the agonist and antagonist effects of the various drugs acting on the adrenergic, cholinergic and autacoid receptors	A1
K9	List the uses, interactions and adverse effects of drugs used in viral, fungal, and malignant diseases	A1
K10	Describe the principles of epidemiology of communicable diseases and non-communicable diseases	A3
K11	List steps of surveillance and infection control	A3C3
	Skills	
S1	Interpret various laboratory tests to confirm causative microbe of the suspected clinical case	B1B2B3
S2	Apply laboratory safety measures for proper specimen collection and transport to identify microbes using light microscope	B1 B2 B3
S3	Identify and describe the morphology of tissues/organs in various diseases through examination of gross specimens and microscopic slides	B1 B2 B3
S4	Recommend prescriptions for common fungal and viral infections	B2B3
S5	Calculate measurements of frequency of morbidity and mortality and screening indicators	B1 B2

Course Delivery Plan:

B36 General Module Integrated Syllabus 2022-23			
Introduction to Microbiology and Bacterial Taxonomy	1	L	
Structure of the Bacteria - 1	1	SDL	
Structure of the Bacteria - 2	1	SDL	
Physiology and Metabolism of Bacteria	1	CBL	
Bacterial Growth	1	SP	
Microbial Pathogenicity	1	CBL	
Introduction to Parasitology	1	L	
General characters & Classifications of Protozoa	1	L	
General character and classifications of Trematodes	1	SDL	
Introduction	1	L	
Cell Injury-1	1	L	
Cell Injury-2	1	SBIL	
Necrosis- 1	1	SBIL	
Necrosis- 2	1	SGD	
Apoptosis-1	1	L	
Apoptosis-2	1	L	
Practical	1	P	
Definitions & Drug Terminology	1	L	
Drug dosage forms	1	SGD	
Routes of Drug administration	1	SDL	
Factors affecting absorption of drugs I	1	L	
Factors affecting absorption of drugs II	1	SDL	
Dosage forms & Routes of administration 1	1	P	
Dosage forms & Routes of administration 2	1	P	
Epidemiology of Communicable Diseases	1	CBL	
Principles of Prevention & Control of Communicable Diseases	1	L	
Epidemiology of Non Communicable Disease	1	CBL	
Measurement of Disease Frequency	1	SGD	
	28		
Culture methods and types of media	1	L	

Identification of bacteria-Traditional methods	1	SDL	Week 2
Identification of bacteria non-Traditional methods	1	SGD	
Sterilization and disinfection	1	SP	
Infection prevention and Control in Health	1	L	
General characters and classifications of Cestodes	1	SDL	
General characters and classifications of Nematodes	1	SP	
Epidemiology of Non Communicable Disease (Injury)	1	CBL	
Epidemiology of Non Communicable Disease (Cancer)	1	SP	
Principles of Elimination and Eradication	1	SP	
Acute Inflammation- 1	1	L	
Acute Inflammation -2	1	L	
Acute Inflammation -3	1	SBIL	
Acute Inflammation -4	1	SGD	
Practical	1	P	
Chronic Inflammation	1	SBIL	
Granulomatous Diseases-1	1	L	
Granulomatous Diseases-2	1	SBIL	
Drug distribution I	1	SGD	
Drug distribution II	1	SDL	
Drug metabolism I	1	L	
Drug metabolism II	1	SBIL	
Elimination of drugs I	1	SDL	
Elimination of drugs II	1	L	
Pharmacodynamics & Drug Receptors	1	L	
Factors affecting response of drugs	1	L	
Relation between Drug concentration & Response	1	L	
Methods prolonging drug action	1	SDL	
Adverse drug reactions	1	L	
Drug Interactions	1	SGD	
	30		
Antimicrobial therapy-1	1	SGD	Week 3
Antimicrobial therapy-2	1	SGD	
General properties of viruses	1	L	
Culture Media and Biochemical reactions	1	P	
Virus host interaction & pathogenesis	1	CBL	

Viral replication	1	SDL		
Granulomatous Diseases-3	1	CBL		
Granulomatous Diseases-4	1	CBL		
Case Presentation-Inflammation	1	SP		
Practical	1	P		
Repair- 1	1	L		
Repair 2	1	SBIL		
Pathologic Calcification	1	SGD		
Arthropods of Medical Importance	1	SP		
Expanded Program on Immunization	1	L		
Child Health Indicators	1	CBL		
Practical	1			
Introduction to ANS	1	SDL		
Cholinergic drugs – Actions of Acetylcholine (Prototype)	1	L		
Reversible & Irreversible Cholinesterase Inhibitors	1	L		
Anti-muscarinic agents I	1	L		
Anti-muscarinic agents II	1	L		
Neuromuscular blocking agents I	1	L		
	23			
Antiviral drugs, vaccines,interferons	1	SGD		Week 4
Lab Diagnosis of Viral Infection	1	SDL		
Practical	1	P		
General mycology-1	1	SBIL		
General mycology-2	1	SDL		
Antivirals I	1	SBIL		
Antivirals II - Retroviral	1	L		
Pathologic Pigmentation	1	CBL		
Errors Of Metabolism	1	SGD		
Practical	1	P		
Thrombosis-1	1	L		
Thrombosis- 2	1	SBIL		
Embolism	1	L		
Hyperemia & Congestion	1	CBL		
Disease Screening	1	CBL		
Surveillance	1	CBL		
Screening & Surveillance: Exercises	1	SGD		
Neuromuscular blocking agents II	1	SDL		

Introduction to Experimental Pharmacology	1	P	
Adrenergic drugs I	1	L	
Adrenergic drugs II	1	L	
Adrenergic drugs III	1	SDL	
	22		
General mycology-3	1	SBIL	Week 5
General Virology	1	P	
Antifungal Drugs I	1	SBIL	
Antifungal Drugs II	1	L	
Beta-Adrenergic blocking Agents I	1	L	
Beta-Adrenergic blocking Agents II	1	SDL	
Alpha- Adrenergic Agents II	1	L	
Alpha Blocking Agents II	1	L	
Ischemia & Infarction	1	SBIL	
Bacterial Infections (Bacteremia, Toxemia, Septicemia, Pyemia)	1	CBL	
Hypersensitivity Reactions	1	SGD	
Autoimmune Diseases-1	1	L	
Autoimmune Diseases-2	1	SBIL	
Practical	1	P	
Hospital Acquired Infection	1	CBL	
Principles of Health Care Management	1	CBL	
Treatment of glaucoma, Myasthenia & Phaeochromocytoma	1	SP	
Revision	1	L	
Chelating Agents	1	SDL	
H1 – Receptor Antagonists	1	L	
	20		
Immunodeficiency Diseases	1	SBIL	Week 6
Amyloidosis-1	1	SBIL	
Amyloidosis-2	1	SBIL	
Cell Adaptation-1	1	L	
Cell Adaptation- 2	1	SGD	
Practical	2	P	
Neoplasia-1	1	L	
Neoplasia-2	1	L	
Neoplasia-3	1	L	
Health Care Quality & Patient Safety	1	L	
General Mycology	1	P	
Prostaglandins its role and preparations	1	L	
NSAIDS I	1	SBIL	
NSAIDS II	1	SBIL	
Treatment of Rheumatoid Arthritis 1	1	L	

Treatment of Rheumatoid Arthritis 2	1	SBIL	
Practical	1	P	
Treatment of Gout	1	CBL	
Renin-angiotensin – role and antagonists , NO, Kalikrein	1	L	
	20		
Neoplasia- 4	1	SP	Week 7
Benign Tumours-1	1	SBIL	
Benign Tumours-2	1	CBL	
5-HT actions, receptors & related drugs	1	L	
Treatment of Migraine	1	SBIL	
Immuno-pharmacology	1	SDL	
Malignant Tumours- 1	1	SBIL	
Malignant Tumours- 2	1	CBL	
Cytopathology	1	L	
Anti-neoplastic drugs I	1	SBIL	
Anti-neoplastic drugs II	1	L	
Anti-neoplastic drugs III	1	SDL	
Practicals	1	P	
Non-traditional method of Microbial diagnosis	1	P	
Practical	2	P	
Practical Revision	1	P	
	17		
Effect of drugs on dog's BP	P	1	Week 8
Effect of drugs on dog's BP	P	1	
Effect of drugs on frog's heart I	1	P	
Effect of drugs on frog's heart II	1	P	
Effect of drugs on rabbit's intestine	1	P	
Effect of drugs on rabbit's intestine	1	P	
Effect of drugs on rabbit's eyes I	1	P	
Effect of drugs on rabbit's eyes II	1	P	
	8		
Total = 166 Hours			

Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Skills		
K1	Describe the basic structure of bacteria, viruses and molds	Lectures, SP, SDL, Laboratory	Quiz, Assignments
K2	Describe the methods used for laboratory diagnosis of bacteria, viruses, yeasts and molds	Lectures, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
S1	Interpret various laboratory tests to confirm causative microbe of the suspected clinical case	Lectures, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
S2	Apply laboratory safety measures for proper specimen collection and transport to identify microbes using light microscope	Lectures, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K4	Differentiate the general morphology, characteristics and life cycles of Trematodes, Cestodes, Nematodes, Protozoa and medically important Arthropods.	Lectures, SDL,, SP	Quiz, Assignments, Mid Comprehensive Exams
K5	Describe the gross and microscopic changes induced by common diseases	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K6	Explain the etiology and pathogenesis of common diseases in human body	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K7	Discuss the morphological features of common diseases with their prognosis	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
S3	Identify and describe the morphology of tissues/organs in various diseases through examination of gross specimens and microscopic slides	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K7	Describe the sources, routes pharmacokinetics and pharmacodynamics of drugs	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K8	Describe the agonist and antagonist effects of the various drugs acting on the adrenergic, cholinergic and autacoid receptors	Lectures, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K9	List the uses, interactions and adverse effects of drugs used in viral, fungal, and malignant diseases	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
S4	Recommend prescriptions for common fungal and viral infections	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K10	Describe the principles of epidemiology of communicable diseases and non-communicable diseases	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams
K11	List steps of surveillance and infection control	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
S5	Calculate measurements of frequency of morbidity and mortality and screening indicators	Lectures, SBIL, SP, SDL, Laboratory	Quiz, Assignments, Mid Comprehensive Exams

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score	Date of assessment
1	Continuous Assessment	1-7	15%	
2	Midsemester Exam	5	15%	19 Sept 2022
3	Final Semester Exam	17	70%	Jan 2023

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Microbiology <ul style="list-style-type: none">Al-Kobaisi, M. F. (2007). Jawetz, Melnick & Adelberg's Medical Microbiology 24th Edition. Sultan Qaboos University Medical Journal [SQUMJ], 7(3), 273-275.Cornelissen, C. N., Harvey, R. A., & Fisher, B. D. (2012). Microbiology (Vol. 3). Lippincott Williams & Wilkins.
	Parasitology <ul style="list-style-type: none">Garcia, L. S. (2006). Diagnostic medical parasitology. American Society for Microbiology Press.John, D. T., & Petri, W. A. (2013). Markell and Voge's medical parasitology-e-book. Elsevier Health Sciences.Paniker, C. J. (2007). Textbook of medical parasitology (No. Ed. 6). Jaypee Brothers Medical Publishers (P) Ltd.Neva, F. A., & Brown, H. W. (1994). Basic clinical parasitology (No. Ed. 6). Appleton & Lange.Gunn, A., & Pitt, S. J. (2022). Parasitology: an integrated approach. John Wiley & Sons.Zeibig, E. (2014). Clinical parasitology: A practical approach. Elsevier Health Sciences.
	Pathology <ul style="list-style-type: none">Lippincott Williams & Wilkins. Pathology: Kumar, V., Abbas, A. K., &Kumar, V., Abbas, A. K., & Aster, J. C. (2017). Robbins Basic Pathology (10th ed.). Elsevier - Health Sciences Division.Walter, J. B., & IC, T. (1996). Walter & Israel General Pathology 1996. Chp, 52, 831.
	Pharmacology <ul style="list-style-type: none">Katzung, B. G., & Trevor, A. J. (Eds.). (2012). Basic & clinical pharmacology.Whalen, K. (2018). Lippincott® Illustrated Reviews: Pharmacology. Wolters kluwer india Pvt Ltd.Trevor, A. J., Katzung, B. G., Masters, S. B., & Kruidering-Hall, M. (2010). Pharmacology examination & board review (pp. 121-132). New York: McGraw-Hill Medical.KIM, M. K., MOORE, J. H., KIM, J. K., CHO, K. H., CHO, Y. W., KIM, Y. S., ... & SHIN, M. H. (2011). Goodman & Gilman's The

	<p>Pharmacological Basis of Therapeutics Goodman & Gilman's The Pharmacological Basis of Therapeutics, 521-547, 2001. Journal of human genetics, 56(1), 71-76.</p>
	<p>Community Medicine</p> <ul style="list-style-type: none"> • Breslow, L. Encyclopedia of Public Health (AG). • Community Medicine: Control of Communicable Diseases Manual. (2022, February 28). In D. L. Heymann (Ed.), An Official Report of the American Public Health Association. APHA Press.
References Materials	<ul style="list-style-type: none"> • PowerPoints-Lecture notes, video animations
Electronic Materials	<ul style="list-style-type: none"> • AMBOSS • Access Medicine • UptoDate
Other Learning Materials	

2. Facilities Required

Item	Resources
<p>Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)</p>	Laboratory, Classrooms, Demonstration rooms
<p>Technology Resources (AV, data show, Smart Board, software, etc.)</p>	Smart Board; Data Show, WIFI
<p>Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)</p>	

Course Coordinator:

Prof. Tanseem Sandozi: <Prof.Tasneemsandozi@dmcg.edu>

Course Instructor:

Prof. Magda: Prof.Magda DMCG <magda@dmcg.edu>

Prof. Ghazal Mehdi: <dr.ghazala@dmcg.edu>

Dr. Sahar: <dr.sahar@dmcg.edu>