Handbook

MBBS Degree Programme

2021/2022

FACULTY OF MEDICINE

GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

THE LOGO OF THE FACULTY OF MEDICINE, GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

The two swords, anchor and wings represent the Sri Lanka Army, Navy and Air Force respectively. The serpents and winged staff represent the symbol of the medical profession.

FOREWORD

I congratulate you on being selected to train as a medical professional at the Faculty of Medicine, General Sir John Kotelawala Defence University (FOM, KDU), the only medical school which trains military medical students in Sri Lanka.

Our undergraduates at the FOM include both military medical students (Cadets) as well as non-military foreign students. The FOM, KDU is a unique medical school because it includes subjects such as aeronautical, naval, nuclear, emergency, trauma and critical care medicine in addition to the subjects of a normal medical curriculum. This is done because these subjects are deemed essential to a military (Army, Navy Air Force) doctor. The academic programme aims to develop your knowledge, skills and attitudes with the intention of producing competent, dedicated and compassionate medical professionals who will also be continuous learners and researchers. The exposure to military practices will further enrich your university life and enable you to develop integral life skills such as discipline, commitment, teamwork, leadership and time management. Students at KDU are also encouraged and given ample opportunities to take part in sporting and other aesthetic events. The end result of all of the above will be to produce a well-rounded medical professional.

This handbook contains a brief history of the FOM KDU, details of the medical course, assessment methods leading to the MBBS degree, the code of conduct and examination by-laws which all medical students are expected to abide by. Disciplinary action will be taken in accordance with the rules of the KDU against any student who fails to abide by the rules and regulations of the KDU.

As you start your medical education, I wish you the very best for a successful and enjoyable career in the medical profession.

Air Cdre (Prof) RANK Wijesinghe
Dean – Faculty of Medicine
Sir John Kotelawala Defence University
January 2022

VISION

To be a medical school nationality and internationally known for its unique ability to produce military and civilian medical graduates who will fulfill the health requirements of the tri-services, state sector and society at large with global outreach.

MISSION

To prepare skilled leaders in the medical profession who practice patient-centered medicine of the highest ethical and medical standards across widely differing fields through training, research and lifelong education

CONTENTS

INSTITUTIONAL OBJECTIVES

- To be a centre of excellence in providing high quality medical education, meeting the highest international standards, responding to the changing external environment with vision, advocacy and resilience.
- To produce highly disciplined, self-motivated and dedicated doctors who show compassion and respect towards their patients and meet their health needs in the context of their families and society.
- To produce doctors with the ability to deal with humanitarian crises such as war, terrorism, man-made and natural disasters and ensure safety of civilians as well as military personnel.
- To be a centre which provides continuing professional development and postgraduate training to health care professionals.
- To be a centre for medical innovation and research which generates new knowledge to meet the health needs of the society at large.

INTENDED LEARNING OUTCOMES OF THE MEDICAL GRADUATES

1. To acquire knowledge, skills and attitudes required to manage common diseases within the social, religious, cultural and economic milieu of medical practice in Sri Lanka.
2. To be able to gain the trust of patients, communicate effectively and enable patients to make informed decisions about their own health.
3. To be able to provide promotive, preventive, curative and rehabilitative care to fulfill the health needs of the individual, family and community.
4. To be able to function efficiently in multi-professional and multidisciplinary teams, both as a team player as well as a team leader.
5. To develop skills of critical thinking and appraisal of medical evidence in order to practice evidence based medicine.
6. To be able to perform basic medico-legal procedures and discharge statutory duties.
7. To acquire the skills and experience required to plan, conduct and report research using a systematic and scientific approach.
8. To be a health care professional who applies ethical principles in medical practice, in conducting research and in one's personal life.
9. To be committed to teach health professionals as well as educate the society and develop the skills required to be a competent teacher and trainer.
10. To possess the appropriate attitudes towards personal and professional development through reflective practice and life-long learning.

ADMINISTRATIVE STAFF

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The University

General Sir John Kotelawela Defence University (KDU) was initially established as the “General Sir John Kotelawala Defence Academy” by the Parliamentary Act No 68 of 1981 and subsequently elevated to university status by the Amendment Act No 27 of 1988. KDU is located at the Kandawala Estate in Ratmalana, which was donated by the late General Sir John Kotelawala. There are nine Faculties currently established and functional in the KDU. They include the Faculty of Defence and Strategic Studies, Faculty of Law, Faculty of Management, Social Sciences and Humanities, Faculty of Engineering, Faculty of Medicine, Faculty of Allied Health Sciences, Faculty of Graduate Studies, Faculty of Built Environment and Spatial Sciences and Faculty of Computing. The last two are located in the Southern Campus at Sooriyawewa. The other Faculties and the main administrative buildings are located in the main campus at Kandawala, Ratmalana. A specific facility for research and innovation, KDU–CARE is also located within the main campus.

The Faculty of Medicine

The Faculty of Medicine, KDU was established in 2009 under a memorandum of understanding with the Faculty of Medicine, University of Ruhuna (UOR). The Faculty of Medicine (FOM), KDU adopted the curriculum of the Faculty of Medicine (UOR) with a few modifications necessitated due to it being a Medical Faculty within a Defence University. A few additional subjects such as aeronautical, naval, nuclear, emergency, trauma and critical care medicine and military training were included in the course as additions to the generic curriculum. The course covers a total period of 5 years.

The first 3 batches of medical students numbering 25, 22 and 26 respectively consisted exclusively of cadets affiliated to the tri-services. They were a constituent of the 27th, 28th and 29th intakes of the KDU. The preclinical course up to the 2nd MBBS examination was conducted at the University of Ruhuna for the first 2 batches. From Intake 29 onwards, the course is conducted entirely on site at Ratmalana.

Due to the requirement of a minimum critical mass of students to run a viable and sustainable Medical School, the Board of Management of the KDU decided to recruit academically eligible foreign students on a fee levying basis to complement the military students from the fourth batch (30th) intake onwards, subject to an upper limit of 100 students per batch.

There have been ten intakes up to date as a combination of military cadets and foreign civilian students. Up to the third intake, only male cadets were recruited. Subsequent intakes have included a significant number of female cadets as well. The MBBS degree programme is conducted by qualified and experienced academic and medical professionals. Details of the teachers at the FOM can be accessed at the KDU website (www.kdu.ac.lk).

The Faculty of Medicine

The educational activities in the first 3 semesters are confined to the FOM, KDU located in Ratmalana. From the 4th semester onwards, clinical training commences along with lectures. The Kotelawala Defence University Teaching Hospital (UH-KDU) was completed in 2017, which is located in Werahara. Most of the professorial clinical teaching and other relevant tertiary clinical teaching are now being carried out there. However, students also have access to many other state hospitals including the tri-service hospitals for their clinical clerkships as necessary.

The Ratmalana Medical Officer of Health (MOH) division has been made accessible to the KDU for the purpose of field training in community medicine. A family medicine clinic with communication skills training laboratory has been established at the UH-KDU. A few designated general practitioners have been identified for further exposure to family medicine. The clinical training in forensic medicine is being conducted at the office of the Judicial Medical Officer (JMO), Colombo South Teaching Hospital and Kalutara General Hospital.

The KDU was given the right to conduct a MBBS course which is registrable with the Sri Lanka Medical Council (SLMC) by an Act of Parliament in 2013. The Sri Lanka Medical Council having made a desk review of the submission made by the KDU made a site inspection in 2014 and granted full recognition to the MBBS course at KDU for the purpose of registration under section 29 of the Medical ordinance. So far, six (06) batches of medical graduates from KDU have completed their internship in state hospitals in Sri Lanka.

Facilities at the Faculty of Medicine

The FOM building houses all the academic and administrative staff of the FOM, lecture halls, tutorial rooms, an auditorium, state of the art teaching and research laboratories, dissection room for anatomy, the anatomy museum, medical library, clinical skills laboratory and a student canteen. A multidisciplinary museum is also being developed and is available since 2016. Facilities for sports and recreation are available at the Ratmalana campus whilst the swimming pool is conveniently situated at the FOM premises.

THE PRECLINICAL SCIENCES

The student will study the preclinical science subjects in the first three semesters. Preclinical Sciences include 3 subject areas, namely Anatomy, Biochemistry and Physiology. The curriculum is designed to introduce and facilitate the teaching and learning of the basic structure and function of the human.

The main assessment in the preclinical sciences program is the 2nd MBBS examination, held at the end of the 3rd semester assessing all 3 subjects. Additional in-course assessments will be held at the end of each semester, a percentage of the marks will be carried over to the final marks at the 2nd MBBS examination. The details of the in-course assessments and the 2nd MBBS examination are given under each subject.

A minimum of 80% attendance at all teaching activities including lectures, tutorials, small group discussions and laboratory training is required to be eligible to sit the 2nd MBBS examination. To pass a subject at the 2nd MBBS examination, the student should score a minimum of 40% in theory papers and obtain a minimum total aggregate of 50% for each subject. A candidate obtaining 70% or more in a subject in the first attempt will be awarded a distinction pass in that subject. However, it must be noted that the 2nd MBBS examination is a **barrier examination**. A student must pass this examination to proceed to the paraclinical sciences and clinical training. A student is given only four (4) attempts to pass this examination. Failure to pass this examination within four (4) attempts would lead to de-registration. Further details relevant to the preclinical course can be found in the faculty of medicine examination by-laws and regulations, which are given at the end of this document.

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ANATOMY

Duration of the course: 3 semesters

Human anatomy is a branch of medical science dealing with the structure of the human body. This is taught through lectures and by dissection of cadavers. The term “anatomy” is derived from the ancient Greek term meaning “to dissect”. Human anatomy is considered as one of the basic essential sciences of medicine.

The discipline of anatomy is divided into macroscopic and microscopic anatomy. Macroscopic anatomy, or gross anatomy, is the examination of the human body parts using unaided eyesight. Gross anatomy also includes the branch of superficial or surface anatomy. On the other hand, microscopic anatomy or histology involves the use of instruments to study structure of the human body not visible to the naked eye. Human anatomy also encompasses both clinical and basic science disciplines including developmental anatomy, human genetics, neuroanatomy and radiology.

Intended Learning Outcomes:

On completion of this course the student will

1. gain a sound knowledge of the normal disposition of the structure of the human body, commonly encountered variations in gross structure, functional and applied anatomy of the various organs as an essential prerequisite for solving clinical problems which, they will encounter in their future career as physicians.

2. be able to identify the microscopic structures of various cells, tissues and organs in the human body and correlate them with their functions as an important prerequisite to understand their altered state in various disease processes.

3. gain an understanding of the critical stages of normal development, the fundamentals of human genetics and the common genetic disorders.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Gross anatomy	Dissections – 260 hours Lectures – 40 hours Tutorials – 84 hours	1-3
Clinical anatomy	Lectures - 20 hours	1-3
Histology	Lectures – 28 hours Practical – 31 hours	1-3
Neuroanatomy	Lectures – 24 hours Practical– 12 hours	3
Genetics	Lectures - 20 hours	1,3
Embryology	Lectures – 34 hours	1-3

Assessments

Three continuous assessments will be held at the end of the 1st, 2nd and 3rd semesters. At the end of the 3rd semester, the 2nd MBBS examination will be held. All examinations will be conducted in accordance with Faculty of Medicine examinations by-laws.

Continuous Assessment 1 (end of 1st semesters)

Method of Assessment	No of questions	Marks allocated to 2nd MBBS
MCQ	30	2 1/2
Spot **Gross anatomy** **Histology**	 20 5	 2

Continuous Assessment 1 - supplementary

Method of Assessment	Duration	Marks allocated to 2nd MBBS
Spot Viva	40 minutes	4 1/2

Continuous Assessment 2 (end of 2nd semester)

Method of Assessment	No of questions	Marks allocated to 2nd MBBS
MCQ	30	2 1/2
SEQ **Gross Anatomy** **Histology**	 20 5	 2

Continuous Assessment 2 - supplementary

Method of Assessment	Duration	Marks allocated to 2nd MBBS
Spot Viva	40 minutes	4 1/2

Continuous Assessment 3 (Neuroanatomy – end of 3rd semester)

Method of Assessment	No of questions	Marks allocated to 2nd MBBS
MCQ	10	1

Continuous Assessment 3 – supplementary

Method of Assessment	Duration	Marks allocated to 2nd MBBS
Spot Viva	20 minutes	2

2nd MBBS Examination

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
MCQ	60	20	
SEQ	06	24	
Gross Anatomy spot	40	26	
Histology spot	10	10	
Viva- voce	**7 minutes**	10	
Total contribution to 2nd MBBS examination			90
Continuous Assessment contribution			10
Total			100

2nd MBBS Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
MCQ	60	25	
SEQ	6	25	
Gross Anatomy spot	40	30	
Histology spot	10	10	
Viva-voce	**7 minutes**	10	
Total			100

Recommended textbooks

- Cunningham's Manual of Practical Anatomy (i-iii)
  Romanes GJ
  (Latest edition)

- Clinical Anatomy
  Ellis H
  (Latest edition)

- Lasts Human Anatomy: Regional and Applied
  Chummy S Sinnatamby
  (Latest edition)

- Clinical Neuroanatomy for Medical Students
  Snell RS
  (Latest edition)

- Wheater's Functional Histology
  Young B, Lowe J, Stevens A, Heath J. &
  Deakin P (Latest edition)

- Langman's Medical Embryology
  Sadler TW
  (Latest edition)

Supplementary Reading:

- Grey's Anatomy for Students
  Richard L Drake, A Wayne Vogl and Adam WM Micheal
  (Latest edition)

- An Introduction to Medical Genetics
  Roberts JAF
  (Latest edition)

- Grants atlas
  Ann MR Agur and Arthur F Dally
  (Latest edition)

- McMinns Clinical Atlas of Human Anatomy
  Peter H Abrahams
  (Latest edition)

BIOCHEMISTRY

Duration of the course: 3 semesters

Biochemistry is the study of the chemical basis of life; in other words, the chemistry of the living organism. A living organism is a collection of non-living molecules such as carbohydrates, lipids, proteins etc. and ions such as calcium, magnesium, zinc etc. Within the “body” of the organism, these non-living molecules and ions interact with one another in an organized and orderly manner to convert this “body” into a “living organism”. The study of these biomolecules and their interactions is Biochemistry. Biochemistry is the understanding of the chemical processes associated with “living” at the molecular level.

A study of these interactions under “normal” circumstances helps the student to understand “healthy” life. However, occasionally there are defects in these interactions brought about either due to genetic (hereditary) reasons or effects of environmental factors such as harmful chemicals or radiation. Such defects lead to disease. Some of them can be cured while others are terminal, leading to death. Knowledge of these defects enables the student to understand the reasons behind diseases. It also helps scientists to think of ways of correcting these defects.

This course is designed to cover the aspects of biochemistry relevant to medicine. A good knowledge of biochemistry enables a student to understand normal healthy life and disease at molecular level.

Intended Learning Outcomes

On completion of this course the student will

1. have a basic overall knowledge of the important biomolecules found in the human body and their importance for health.

2. understand the basic metabolic pathways and their regulation to explain their role in life and how errors in them lead to disease.

3. understand the biochemical principles behind common tests used in diagnostics and be able to explain the abnormalities seen in laboratory reports in biochemical terms.

4. have a basic knowledge of the principles of human nutrition, nutritional requirements and common human nutritional deficiency diseases.

5. understand the basic principles for planning a suitable healthy diet for normal, obese and diabetic persons.

6. have a basic knowledge of the applications of molecular techniques in disease diagnosis and therapeutics.

The Academic Programme

Subject area	Teaching/learning method	semester
Cell structure and function	Lectures – 2 hours Tutorials – 1 hours	1
pH and buffers	Lectures – 2 hours Tutorials – 1 hour Practical Classes – 3 hours	1
Carbohydrates	Lectures – 5 hours Tutorials – 1 hour Practical Classes – 3 hours	1
Proteins	Lectures – 5 hours Tutorials – 2 hours Practical classes – 3 hours	1
Enzymes & Inhibition	Lectures – 3 hour Tutorials – 1 hour Practical classes – 3 hours	1
Lipids	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	1
Nucleic acids	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	1
Information transfer	Lectures – 3 hours Tutorials – 1 hour	1
Haemoglobin	Lectures – 5 hours Tutorials – 1 hour Practical classes – 3 hours	1
Free radicals and antioxidants	Lectures – 1 hour	1
Digestion & absorption	Lectures – 2 hours Tutorials – 1 hour	1
Carbohydrate metabolism	Lectures – 7 hours Tutorials – 2 hours Practical classes – 3 hours	2
Respiratory chain and oxidative phosphorylation	Lectures – 1 hour	2

Subject area	Teaching/learning method	semester
Protein metabolism	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	2
Lipid metabolism	Lectures – 7 hours Tutorials – 2 hours Practical classes – 3 hours	2
Bilirubin metabolism	Lectures – 3 hours Tutorials – 1 hour Practical classes – 3 hours	2
Nucleic acid metabolism	Lectures – 4 hours Tutorials – 1 hour	2
Integration of metabolism	Lectures – 2 hours	2
Diabetes mellitus	Lectures – 3 hours Tutorials – 1 hour	2
Liver metabolism	Lectures – 3 hours Tutorials – 1 hour	2
Inborn errorsof metabolism	Lectures – 3 hours Tutorials – 1 hour	2
Molecular techniques in medicine	Lectures – 5 hours Tutorials – 1 hour Practical classes – 3 hours	2
Micronutrients	Lectures – 3 hours Tutorials – 1 hour	2
Foods and diets	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	3
Principles of nutrition	Lectures – 7 hours Tutorials – 1 hour Practical classes – 3 hours	3
Vitamins	Lectures – 5 hours Tutorials – 2 hours Practical classes – 3 hours	3
Hormone action	Lectures – 4 hours Tutorials – 1 hour	3
Basic clinical biochemistry	Lectures – 10 hours Tutorials – 5 hours Practical classes – 3 hours	3
Plasma proteins	Lectures – 2 hours Tutorials – 1hour	3
Cancer & aging	Lectures – 2 hours Tutorials – 1hour	3

Assessments

Two continuous assessments will be held at the end of each semester. At the end of the 3rd semester, the 2nd MBBS examination will be held.

Continuous Assessments 1 & 2 (end of 1st and 2nd semester)

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2ndMBBS
MCQ	20	2	(2x2) 4
SEQ	2	2	(2x2) 4
Spots	5	1	(1x2) 2
Total			10

Continuous Assessments 1 & 2 (Supplementary)

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2ndMBBS
SEQ	2	5	(5x2) 10
Total			10

2nd MBBS Examination

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
MCQ	40	30	
SEQ	6	30	
Spots	20	20	
Viva-voce	**7 minutes**	10	
Contribution to 2nd MBBS			90
Continuous Assessment contribution			10
Total			**100**

2nd MBBS Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
MCQ	40	35	
SEQ	6	35	
Spots	20	20	
Viva-voce	**7 minutes**	10	
	Total		**100**

Recommended text books:

- Lippincott's Illustrated Reviews –
  Biochemistry
  Harvey RA (ed)
  7th edition, 2017,
  Lippincott Williams & Wilkins, Philadelphia.

- Harper's Illustrated
  Biochemistry
  Murray R, Rodwell V, Bender D, Botham KM, Weil AP, Kennelly PJ
  31st edition, 2018
  McGraw – Hill Medical, New York.

- Nutrition through the lifecycle
  Wickramanyake TW

- Textbook of Biochemistry with Clinical Correlation,
  Devlin TM
  7th edition, 2011
  John Wiley & Sons, New York.

PHYSIOLOGY

Duration of the course: 3 semesters

The subject of human physiology - the study of the function of the human body – is fundamental to the study of medicine.

It is the dynamic interplay of processes that keep the body in 'normal' function. It is a study of the processes that are involved in the interaction between the 'external' environment and the 'internal' environment of the body. For convenience, we will be studying our body in a system-based approach separating, for instance, the cardiovascular system from the respiratory system. The maintenance of the natural equilibrium of our body is learnt by understanding the principle of homeostasis.

Intended Learning Outcomes

On completion of this course the student will

1. acquire the knowledge related to the normal function of the human body.
2. describe the pathophysiological basis of disordered functions of the human body.
3. acquire the necessary practical skills relevant to human physiology at the preclinical level.
4. critically analyse the physiological concepts in health and their derangements in disease.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Biological measurements, Homeostasis Introduction to statistics,	Lectures – 6 hours Practical classes – 2 hours	1
cell communication, cellular transport Body fluids dehydration	Lectures – 4 hours Tutorials/ SGD – 2 hours Practical classes – 2 hours	1
Introduction to the Autonomic Nervous System, Excitable tissues	Lectures – 8 hours Tutorials/ SGD – 2 hours	1
Blood and Immunity	Lectures – 13 hours Tutorials/ SGD – 4 hours Practical classes – 6 hours	1
Cardiovascular Physiology	Lectures – 23 hours Tutorials/ SGD – 8 hours Practical classes – 6 hours	1
Respiratory Physiology	Lectures – 18 hours Tutorial/ SGD – 6 hours Practical classes – 4 hours	1
Gastrointestinal Physiology	Lectures – 20 hours Tutorial/ SGD – 4 hours Practical classes – 4 hours	2
Renal Physiology	Lectures – 12 hours Tutorial/ SGD – 4 hours Practical classes – 4 hours	2
Endocrine Physiology	Lectures – 17 hours Tutorial/ SGD – 4 hours Practical class – 2 hours	2
Reproductive Physiology	Lectures – 15 hours Tutorial/ SGD – 2 hours Practical classes – 3 hours	2
Neurophysiology	Lectures – 48 hours Tutorial/ SGD – 6 hours Practical classes – 12 hour	3
Miscellaneous	Lectures – 6 hours	3

Assessments

Two continuous assessments will be held at the end of the 1st and 2nd semesters. At the end of the 3rd semester, the 2nd MBBS examination will be held.

Continuous Assessment 1 (end of 1st semester)

Method of Assessment	No of Questions	Marks Allocated to 2nd MBBS
BRQs + MRQs	05 + 15	3
SEQs	2	3
OSPE	10	2
Total		**8**

Continuous Assessment 2 (end of 2nd semester)

Method of Assessment	No of questions	Marks Allocated to 2nd MBBS
BRQs + MRQs	05 + 15	5
SEQs	2	5
OSPE	10	2
Total		**12**

Supplementary Assessments

Continuous Assessment 1

Method of Assessment	No of Questions	Marks Allocated to 2nd MBBS
SEQs	2	6
Viva voce	10 minutes	2
Total		**8**

Continuous Assessment 2

Method of Assessment	No of questions	Marks allocated to 2nd MBBS
SEQs	2	8
Viva voce	10 minutes	4
Total		**12**

2nd MBBS Examination

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
BRQs	10	25	
MRQs	40		
SEQs	5	25	
OSPE	25	20	
Viva voce	10 minutes	10	
			80
Continuous Assessment			20
Total			**100**

2nd MBBS Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
BRQs	10	30	
MRQs	40		
SEQs	05	30	
OSPE	25	30	
Viva voce	10 minutes	10	
Total			**100**

Recommended textbooks:

- Ganong's Review of Medical Physiology,
  Barrett KE, Barman SM, Boitano S,
  Heddwen BL 24th edition 2012 or latest
  edition,
  McGraw-Hill. New York.

- Textbook of Medical Physiology,
  Hall JE,
  Latest edition,
  Elsevier Science Health science division. Philadelphia.

- Hutchinson's Clinical Methods,
  Glynn M, Drake W (eds)
  Latest edition,
  Saunders Ltd, Philadelphia.

THE PARA-CLINICAL SCIENCES

The Department of Para-clinical Sciences is one of the three departments of the Faculty of Medicine. The students who successfully complete the Second MBBS Examination will study the Para-clinical Sciences subjects from the 4th to 7th semesters. The subjects of Microbiology and Parasitology are taught in semesters 4 and 5, the subjects Pharmacology, Pathology, Public Health and Family Medicine are taught from semesters 4 to 7 and Forensic Medicine from Semesters 5 to 7. The department conducts two examinations, the Third MBBS Part I and Third MBBS Part II Examinations at the end of semesters 5 and 7 respectively. Microbiology and Parasitology will be assessed at the Third MBBS Part I Examination and the remaining subjects will be assessed at the Third MBBS Part II Examination.

To pass any of the subjects, the student should score a minimum of 45% in the theory component and obtain a minimum aggregate of 50% for the whole subject. A candidate obtaining 70% or more in a subject in the first attempt will be awarded a distinction pass in that subject.

MICROBIOLOGY

Duration of Course: 2 semesters

Microbiology is the study of microorganisms (bacteria, fungi and viruses) and the infectious diseases caused by them. During this course, the students will learn about infectious diseases including organisms, transmission of infection, diagnosis, antimicrobial treatment and prevention. The learning of Microbiology should go hand in hand with clinical work in the hospital wards. The students should be able to relate the knowledge learnt in the classroom to cases of infectious diseases that are seen and discussed in the wards.

Students will have a total of 2 - 3 hours of contact time per week with the staff. These are distributed among the various teaching learning activities such as lectures, tutorials, and laboratory practical training and demonstrations.

In the 4th semester, the students will learn in general microbiology the structure and function of bacteria, virulence factors and host parasite relationship in health and disease; in immunology, the immunity to infections and abnormal immune responses. In bacteriology, students will learn the common bacteria that cause infections, how they are transmitted, clinical manifestations, how they are diagnosed and treated.

In the 5th semester, students will learn viral and fungal infections, infections of systems (e.g. respiratory, urinary tract infections etc.) and how they are diagnosed and treated.

Intended Learning Outcomes

On completion of this course the student will be able to

1. describe the pathogenic microorganisms that are commonly encountered (bacteria, viruses and fungi) and their habitats, routes of transmission, pathogenesis of infections and clinical signs and symptoms of the infections.
2. select appropriate antimicrobial agents that can be used in treatment and in prophylaxis of infectious diseases.
3. describe briefly the microbiological diagnosis of infectious diseases including appropriate laboratory tests.
4. advise on collection and transport of specimens for microbiological investigations.
5. explain measures that can be taken for the prevention and control of infectious diseases including immunization.
6. select the antiseptics, disinfectants and sterilizing agents appropriate for use in patient care and in the laboratory.
7. explain the basic principles of infection prevention and control in the hospital and hospital acquired infections.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
General Microbiology	Lectures – 3 hours Tutorials – 1 hour Practical classes – 2 hours	4
Disinfection and Sterilization	Lectures – 45 Minutes Tutorial/ Practical Classes – 45 Minutes	4
Immunology	Lectures – 6 hours Tutorials – 1 hour	4
Bacteriology	Lectures – 17 hours Tutorials – 3 hours Practical Classes – 5 hours	4
Antibiotics	Lectures – 2 hours Tutorials – 1 hours	4
Virology	Lectures – 14 hours Tutorials – 3 hours Practical Classes – 2 hours	5
Mycology	Lectures – 2 hours Tutorials – 1 hour Practical Classes – 2 hours	5
Systemic Infections	Lectures – 14 hours Tutorials – 4 hours Practical Classes – 8 hours	5
Basic Principles on Hospital Infection Control	Lectures/ Workshops - 2.5 hours	4

Assessments

Assessments will constitute of 01 continuous assessment at the end of 4th semester which will carry a total of 20% marks to the 3rd MBBS Part I Examination which will be conducted at the end of the 5th semester.

Continuous Assessment 1

Method of Assessment	Number of Questions	Marks Allocated	Total
MCQ 15 + BRQ 5	20	10	
OSPE	10	10	
Total			20

3rd MBBS Part I Examination

Method of Assessment	Number of Questions	Marks Allocated	Total
SEQ	04	30	
MCQ 24 + BRQ 6	30	25	
OSPE (3min each)	20	20	
Viva (8min)		05	
			80
CAT 1			20
Total			100

3rd MBBS Part I Supplementary Examination

Method of Assessment	Number of Questions	Marks Allocated	Total
MCQ 24 + BRQ 6	30	35	
SEQ	04	40	
OSPE (3min each)	20	20	
Viva (8min)		05	
Total			100

Recommended text books

1. Medical Microbiology by David Greenwood, Richard C.B.Slack & John F. Peutherer. 19th Edition. Churchill Livingstone

2. Mim's Medical Microbiology by Richard Goering, Hazel Dockrell, Mark Zuckerman, Derek Wakelin, Ivan Roitt, Cedreic Mims. 5th Edition, Mosby Elsevier

3. Basic Immunology, Functions and Disorders of the Immune System, Abul Abbas Andrew Lichtman Shiv Pillai, 6th Edition.

4. Cellular and Molecular Immunology by Abbas AK, Lichtman AH. 8th Edition, Saunders Publishing

PARASITOLOGY

Duration of the course: 2 semesters

The Parasitology course primarily teaches about human parasites and the diseases caused by them. The main objective of the course is to acquire basic knowledge and skills to identify, diagnose, manage, prevent and control parasitic diseases found mainly in Sri Lanka. During the course students will learn about the parasites as disease causing agents, their prevalence and geographical distribution, basic morphology, life cycle, modes of transmission, vectors, pathology and clinical symptoms of the diseases, collection of specimens and diagnosis of the parasitic diseases, basic management steps of the patients, anti-parasitic drugs that can be used effectively in treatment, prevention and control of the parasitic diseases. Further, students will learn about arthropod vectors that are capable of transmitting parasitic diseases to humans and parasitic zoonoses. In addition to the parasitic diseases, during the course, students will learn particularly about venomous snakes in Sri Lanka, their identification and management of snakebites.

Intended Learning Outcomes

On completion of this course the student will be able to

1. (a) acquire knowledge and develop skills to diagnose and treat the parasitic diseases commonly found in Sri Lanka
   (b) educate the general public regarding the preventive measures of the above diseases.
2. be aware of other medically important parasitic diseases in the world and possibility of these immerging in Sri Lanka.
3. to have some understanding of the economic loss in a country which could be brought about by widespread parasitic disease.
4. acquire knowledge about parasitic infections in an immunocompromised patient.
5. acquire knowledge about medically important arthropods and their control with special reference to disease in Sri Lanka caused or transmitted by these arthropods.
6. (a) be skilled in identification of poisonous snakes found in Sri Lanka and the clinical manifestations resulting from bites by them, and the management of such patients.
   (b) be able to recognize common non -poisonous snakes found in Sri Lanka specially the ones which mimic the poisonous snakes.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Intestinal and tissue nematodes	Lectures – 20 hours Tutorials/ SGD – 3 hours Practical classes – 9 hours	4
Intestinal protozoans	Lectures – 5 hours Tutorials/ SGD – 1 hour Practical classes – 3 hours	4
Blood and tissue protozoans	Lectures – 13 hours Tutorials/ SGD – 4 hours Practical classes – 6 hours	4 & 5
Cestodes and Trematodes	Lectures – 7 hours Tutorials/ SGD – 2 hours Practical classes- 2 hours	5
Medically important arthropod vectors/ Entomology	Lectures – 8 hours Tutorials – 1 hour Practical classes – 3 hours	5
Parasitic Zoonoses	Lectures – 2 hours Tutorials – 1 hour	5
Medically important Snakes of Sri Lanka	Lectures – 3 hours Tutorials – 1 hour Practical classes – 2 hours	5

Assessments

One continuous assessment and the 3rd MBBS Part I examination will be conducted. Three components of the continuous assessment will be held at the end of the 4th and middle of the 5th semesters. 3rd MBBS Part 1 examination will be conducted at the end of 5th semester.

Continuous Assessment 1

Method of assessment	Number of questions	Marks allocated to 3rd MBBS
15 MCQs (True /False type) + 05 BRQs Best Response type)*	20	10
Practical 1* – examination of faeces	01	05
Practical 2 – Blood smear examination for malaria parasites**	02	05
Total		**20**

* Components will be held at the end of the 4th semester
** Components will be held at the middle of the 5th semester

Third MBBS part 1 Examination

Method of assessment	Number of questions	Marks allocated to 3rd MBBS Part 1
MCQs 24 + BRQs 06	30	25
SEQs (Short Essay Questions)	04	30
OSPE (02 min each)	20	20
Viva (8 min)		05
Total		80
Contribution form continuous assessment		20
Total		100

Supplementary Examination for Continuous Assessment

Method of assessment	Number of questions	Marks allocated to 3rd MBBS Part 1
15 MCQs (True /False Type) + 05 BRQs (Best Response Type)	20	10
Practical 1 – examination of faeces	01	05
Practical 2 – Blood smear examination for malaria parasites	02	05
Total		**20**

Supplementary Examination for 3rd MBBS Part 1 Exam

Method of assessment	Number of questions	Marks allocated
MCQs 24 + BRQs 06	30	35
SEQs (Short Essay Questions)	04	40
OSPE (02 min each)	20	20
Viva (8 min)		05
Total		**100**

Recommended textbooks:

- Manson's Tropical Diseases Cook GC, Alimuddin IZ 23rd edition, 2015 Saunders Elsevier, Philadelphia.

- Medical Parasitology 4th Edition DR Arora, BrijBala Arora CBS Publishers & Distributors

- Website of the Centre for Disease Control and Prevention www.cdc.gov

Supplementary Reading

- WHO publications: Technical Report Series
    - Lymphatic Filariasis
    - Parasitic Zoonoses
    - Intestinal Protozoans & Helminthic infections
    - Management of Acute Malaria
    - Control of Lymphatic Filariasis
    - Hookworm Infection and Anaemia
    - Drugs used in Parasitic Diseases

Publications and technical reports by the Anti Malaria Campaign, Anti Filariasis Campaign
Dengue Control Unit and Epidemiology Unit of the Ministry of health. Sri Lanka.

Entomology for Students of Medicine
RM Gordon and MMJ Lavoipierre

Atlas of Medical Helminthology & Protozoology
HC Jeffrey and H Crozier

Worms and Human Disease
R Muller

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FORENSIC MEDICINE AND TOXICOLOGY

Duration of Course: 3 Semesters

Forensic Medicine is one of the oldest and independent streams of medical practice. The terms Forensic Medicine, Legal Medicine, Medical Jurisprudence, are of almost similar meaning, and interchangeably used to introduce different angles of the discipline. The main function of Forensic Medicine is to fulfill medical needs of the legal system in the country by filling the gap between medicine and the law. However, one should understand that Forensic Medicine is based on research and scientific advancements whereas, law is a social art which reflects and controls accepted norms of the social order specific to particular socio-political system at a given time. The subject areas of Forensic Medicine consist of clinical forensic medicine, forensic pathology, forensic science, forensic anthropology, law and ethics etc.

This course aims at providing students with the knowledge to undertake medico-legal responsibilities in the practice of medicine and also includes criminology and its related medico-legal problems. The knowledge of the law in relation to medical practice, medical negligence and a course on medical ethics are also included.

Intended Learning Outcomes

On completion of this course the student will be able to

1. identify the basic concepts of medico-legal practice pertaining to health and defense services of the Sri Lanka.
2. make observations and interpret findings at post mortem examinations and clinical forensic investigations covering vast spectrum of cases of medico-legal interest including mechanical trauma, intoxications, occupational hazards, sexual crimes and natural diseases.
3. complete relevant medico-legal reports including post mortem report, medico legal examination form, medico-legal report etc. and submit them to law enforcement authorities.
4. observe and practice the principles of medical ethics in the practice of the medical profession.
5. display the personal attributes of compassion, honesty, and integrity in relationships with patients-victims, police, judiciary, colleagues, families, communities and the medical profession.

6. exhibit a capacity for self-evaluation, moral reflection and ethical reasoning to form the basis for a self-directed, lifelong engagement in the profession.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Legal and ethical aspects of medical practice	Lectures – 12 hours Tutorials – 2 hours	5
Introduction to forensic medicine and mechanical injuries / injury patterns	Lectures – 14 hours Tutorials – 2 hours Demonstrations – 3 hours	5
Toxicology [agrochemicals, plant poisons, heavy metals, snake bites, narcotics]	Lectures – 14 hours Tutorials – 1 hour Demonstrations – 1 hour	5/6
Deaths due to asphyxia, mechanical trauma and natural causes, and its medico-legal importance	Lectures – 20 hours Tutorials – 2 hours Demonstrations – 2 hours	6
Sexual offences, child abuse, RTA, maternal deaths and infanticide	Lectures – 18 hours Tutorials – 2 hour Demonstrations– 4 hours	7
Clinical training	2 weeks	6/7

Assessments

Continuous Assessments 1 & 2 (Semesters 5 and 6), Clinical Forensic Medicine Evaluation (Semester 7)

Method of assessment	No of questions	Marks allocated to 3rd MBBS
MCQ & BRQ	(16 : 4) 20	(5 x 2) 10
Completion of medico-legal reports of clinical cases [MLEF and MLR]		10

3rd MBBS Part 2 Examination

Method of assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & BRQ	(32+8) 40	30	
SEQs	4	30	
OSPE		10	
Viva		10	
Contribution to 3rd MBBS			80
Continuous assessment and medico-legal report/ clinical contribution			20
Total marks			**100**

3rd MBBS Part 2 Supplementary Examination

Method of assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(32+8) 40	30	
SEQs	4	40	
OSPE	10	20	
Viva		10	
Total			**100**

Recommended textbooks:

- Simpson's Forensic Medicine
  Payne-James J, Jones R, Karch S,
  Manlove J 13th edition, 2011
  Hodder Arnold Publishers, London.

- Essentials of Forensic Medicine and
  Toxicology Reddy KS Narayan
  2015, Sugunadevi Publishers, India

- Clinical Forensic Medicine MacLay WD (ed)
  2nd edition, 1996,
  Cambridge University Press, Cambridge.

Supplementary Reading

- Knights Forensic Pathology Pekka S,
  Knight B 3rd Edition,
  2013 Arnold, London

- Lecture Notes in Forensic Medicine (Volume I - iv)
  De Alwis LBL

- Management of
  Poisoning, Fernando R.
  1998
  National Poisons Information Centre, Colombo.

- Revision Guide in Forensic
  Medicine, PR Ruwanpura
  2015, KDU

PATHOLOGY

Duration of the course: 4 semesters

Pathology is the scientific study of disease. It is a field that bridges clinical practice with the basic sciences. Pathology encompasses a wide subject area and is therefore sub categorized into the disciplines of histopathology, hematology and chemical pathology.

Histopathology is the study of the macroscopic and microscopic changes in diseased tissue. Hematology deals with the study of the components of blood, their functions and related disorders. Chemical pathology deals with biochemical changes in blood and body fluids (electrolytes, enzymes and proteins etc.) and its association.

During the 4th semester, students will start histopathology with general and tumour pathology. General pathology is concerned with the basic reactions of cells and tissues to abnormal stimuli that underlie all diseases. Tumour pathology will introduce the student to the study of tumour characteristics, its clinical manifestations and investigations. They will also get a brief overview of carcinogenesis.

During the 5th semester students will start and complete chemical pathology and start systemic pathology with the respiratory and cardiovascular systems.

The 6th semester will comprise all the lectures scheduled for hematology and a continuation of the lectures on systemic pathology.

During the 7th semester students will complete their lectures on the remaining organ systems.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
General Pathology	Lectures – 20 hours Tutorials/ SGD – 4 hours Practicals – 5 hours	4
Tumour Pathology	Lectures – 10 hours Tutorials/ SGD – 2 hours Practicals – 2 hours	4
Chemical Pathology	Lectures – 10 hours Tutorials/ SGD – 1 hour Practicals- 5 hours	5
Respiratory Pathology	Lectures – 8 hours Tutorials – 1 hour Practicals – 2 hours	5
Cardiovascular Pathology	Lectures – 8 hours Tutorials – 1 hour Practicals – 2 hours	5
Hematology	Lectures – 15 hours Tutorials – 4 hours Practicals –2 hours	6
Gastrointestinal Pathology	Lectures – 8 hours Tutorials – 1 hour Practicals – 2 hours	6
Hepatobiliary Pathology	Lectures –6 hours Tutorials –1 hour Practicals –1 hour	6
Pathology of the Reticulo- endothelial System	Lectures – 2 hours	6
Bone Pathology	Lectures – 2 hours	7
Breast Pathology	Lectures – 2 hours Tutorials – 1 hour Practicals – 1 hour	7
Thyroid Pathology	Lectures – 2 hours Tutorials – 1 hour Practicals – 1 hour	7
Pathology of the Female Genital Tract	Lectures – 4 hours Tutorials – 1 hour Practicals – 1 hour	7

Subject Area	Teaching/Learning Method	Semester
Pathology of the Male Genital Tract	Lectures – 1 hour Practicals – 1 hour	7
Renal Pathology	Lectures – 6 hours Tutorials – 1 hour Practicals – 1 hour	7
Pathology of the Central Nervous System	Lectures – 4 hours Tutorials – 1 hour Practicals – 1 hour	7
Clinical Pathology	Histopathology - 1 week Chemical Pathology – 1 week Haematology – 1 week Blood Bank – 1 week	Appointments will be scheduled within the 6th and 7th semester.

Intended Learning Outcomes

Histopathology

On completion of this course the student will be able to

1) demonstrate a disease related vocabulary.
2) describe the different cellular responses to injury and stress.
3) describe the morphological changes in tissues associated with disease processes.
4) explain the relationship between altered morphology and abnormal function.
5) describe the characteristics of benign and malignant neoplasms.
6) explain the basic steps in carcinogenesis.
7) list the types of specimen sent to the histopathology laboratory.
8) describe the procedure involved in sending different specimens to the histopathology laboratory.
9) explain the clinical significance of cytopathology and histopathology tests used in the diagnosis and management of systemic disorders.

Chemical Pathology

On completion of this course the student will be able to

1) Explain the pathological basis of biochemical alterations observed in plasma and body fluids in common systemic disorders.
2) Select appropriate biochemical investigations to confirm the diagnosis of diseases and monitor management where applicable.
3) Describe the principles of test requisition, patient preparation, sample collection and transport requirements related to common general and specialized biochemical investigations
4) Interpret the results of biochemical tests, in the context of the overall clinical picture of the patient.

Haematology

On completion of this course the student will be able to

1) explain basics of haemopiesis and function of mean blood cell types.
2) describe the normal process of haemostaurs.
3) describe the inherited and acquired mechanisms of disease processes involving the cellular components (red cells, white cells, platelets) and plasma components of blood.
4) describe inherited and acquired mechanisms of diseases related to the coagulation system.
5) describe the principles of test requisition, patient preparation, sample collection and transport requirements for haematological and blood bank investigations.
6) describe the common diagnostic tests done in the haematology and blood bank laboratories.
7) interpret the results of haematological and blood bank tests, in the context of the overall clinical picture of the patient.
8) outline management if common haematological disorders pertaining to red cells, white cells, platelets, coagulation and transfusion.
9) briefly discuss about blood products and its therapeutic applications and blood donation.
10) describe stem cell and organ transplantation and relevance of Human Histocompatibility Antigen system.

Assessments

Three continuous assessments will be held at the end of semester 4,5 and 6. At the end of the 7th semester the 3rd MBBS part 2 Examination will be held.

Continuous Assessments 1, 2 and 3

Method of assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ + BRQ	(15+5) 20	5	
Total			(3X5) 15

3rd MBBS Part 2 Examination

Method of assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & BRQ	(32+8) 40	20	
SEQs	4	40	

3rd MBBS Part 2 Supplementary Examination

Method of Assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(32+8) 40	30	
SEQ	4	40	
OSPE	15	20	
Viva		10	
Total marks			**100**

Recommended textbooks:

- Robbins Basic Pathology
  Editors - Kumar V, Abbas A, Aster J,
  Robbins SL 10th edition, 2017

- Essential Hematology
  Hoffbrand AV, Pettit JE & Moss A
  Victor Hoffbrand, David P Steensma
  PAH 8th edition, 2019
  Blackwell Publishing, Oxford
  Wiley - Blackwell

- Clinical Chemistry
  9th edition 2020 Marshall WJ,
  Lapsley M, Day A, Shipman K Elsevier

Duration of course: 4 semesters

Pharmacology comes from the Greek word pharmacon (drug) and logia (study) and provides the scientific basis of drug action at the cellular, biochemical and molecular level. Therapeutics links the combined knowledge of disease and how medicines (drugs) affect it. Doctors of all specialties prescribe medicines on a daily basis and this could be one of the most important but also one of the most dangerous activities of a doctor.

Clinical pharmacology and therapeutics is an important part of the MBBS curriculum because understanding the principles of clinical pharmacology and therapeutics is important for safe, effective and rational prescribing.

The aim of the discipline of clinical pharmacology and therapeutics is to provide the core knowledge to link the interaction of medicines at the cellular, biochemical and physiological level to a range of beneficial and adverse effects seen in therapeutic use and to the skills to be fulfilled in the prescribing process.

Intended Learning Outcomes

On completion of this course the student will be able to

1. have a sound understanding of the basic principles of clinical pharmacology.
2. link their knowledge of pharmacokinetics and pharmacodynamics to safe and effective prescribing both in the normal and special situations.
3. have the knowledge to understand Essential therapeutic problems in the context of Sri Lanka and 21st century clinical practice.
4. have the basic knowledge to recognize and explain adverse drug reactions, drug – drug, and food - drug interactions.
5. understand the importance of the essential medicines list (EML), its specific uses and have the skill to select medicines for the EML.
6. with regards to pharmacological research
    a) be aware of the processes and ethical issues involved in pharmaceutical research.
    b) plan a clinical research based on the PICO model/consort guidelines.
    c) critically appraise clinical trial/meta analysis data to extrapolate therapy to correct populations.

7. describe and explain the chemistry, pharmacokinetics, pharmacodynamics, clinical uses, side effects, cautions and contraindications of commonly used medicines in the EML.

8. have the knowledge and skills in:
   a) defining patient's problems (diagnosis);
   b) defining effective and safe treatments (drug and non-drug treatments);
   c) selecting the right medicine, at the right dose, by the right route, at the right time, for the right duration for the right person at the lowest cost to the person and the community with the best available evidence
   d) writing a clear prescription;
   e) giving patients adequate information and counseling;
   f) planning and evaluating treatment responses.

9. understand the concept of pharmacoeconomics

10. possess a sound knowledge of all emergency medicines used in paediatric and adult clinical practice

11. have a basic knowledge on emerging new therapies
   a) Cancer chemotherapy
   b) Biological therapies
   c) Regenerative therapies

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
General pharmacology	Lectures – 31 hours Tutorials – 12 hours Fixed Learning Module – 4 hours	4
Drugs affecting the autonomic nervous system	Lectures – 4 hours Tutorials/ SGD – 2 hours	4
Drugs affecting the cardiovascular system	Lectures – 12 hours Tutorials/ SGD – 3 hours	5
Drugs used in treatment of respiratory disorders	Lectures – 3 hours Tutorials/ SGD – 2 hours Skills sessions – 2 hours	5
Antimicrobial agents	Lectures – 17 hours Tutorials/ SGD – 4 hours	5
Drugs affecting gastrointestinal function	Lectures – 5 hours	5
Drugs affecting hematopoiesis	Lectures – 3 hours	5
Drugs affecting the endocrine system	Lectures – 18 hours Tutorials – 6 hours	6
Drugs affecting the central nervous system	Lectures – 16 hours Tutorials – 5 hours	6
Drugs used in dermatology, disorders of the ear, nose and throat	Lectures – 2 hours	6
Newer therapies	Lectures – 2 hours	7
Pharmacoeconomics	Lectures – 2 hours	7
Therapeutics and toxicology	Lectures – 45 hours Presentation – 2 hours	7

Assessments

Three continuous assessments will be held at the end of semesters 4,5 and 6. At the end of the 7th semester, the 3rd MBBS part 2 Examination will be held.

Continuous Assessment 1

Method of Assessment	No of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(15 +5) 20	5	
SEQs	2	5	
Total			10

Continuous Assessment 2 & 3

Method of Assessment	No of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(15 +5) 20	5	
Total			(5x2) 10

3rd MBBS Part 2 Examination

Method of assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(20+20) 40	30	
SEQs	4	30	
OSPE	10	15	
Viva		5	
Contribution to 3rd MBBS			80
Continuous Assessment contribution			20
Total			**100**

3rd MBBS Part 2 Supplementary Examination

Method of assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(20+20) 40	40	
SEQs	4	40	
OSPE	10	15	
Viva		5	
Total marks			**100**

Recommended textbooks:

- Rang and Dale's Pharmacology
  Rang HP, Dale MM, Ritter JM, Flower RJ &
  Henderson G 7th edition, 2012
  Elsevier Churchill Livingstone, London.

- Clinical Pharmacology
  Bennett PN, Brown MJ,
  Sharma P 11th edition, 2012
  Elsevier Churchill Livingstone, London.

Recommended reading for clinical attachments

- British National Formulary. BMJ group and pharmaceutical Press. Latest ed.

- Australian Prescriber

Supplementary reading

- Goodman and Gilman's the Pharmacological basis of Therapeutics
  Katzung BG, Trevor J
  12th Edition, 2011
  McGraw Hill, New York

- Sri Lankan Prescriber

PUBLIC HEALTH & FAMILY MEDICINE

Duration of the course: 4 semesters

The subjects of Public Health and Family Medicine are taught to the students in their third and fourth years. Public Health teaches the student the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of individuals, communities, society and public and private organizations. Family Medicine teaches students how to apply the concepts and principles of Family Medicine in the management of patients at the level of primary care.

The subject of Public Health, also known as community medicine consists of epidemiology, biostatistics, primary health care, health education and behavior change communication, research methodology, healthcare delivery systems, demography, communicable and non-communicable disease epidemiology, maternal and child health, environmental and occupational health and sanitation, food hygiene, health promotion, behavioural sciences, medical sociology, medical anthropology, healthcare management, human nutrition, disaster management and health economics. The students do a clinical appointment or clerkship, a community attachment, a family attachment and a research project.

The emphasis on the community attachment is health promotion, community diagnosis and community mobilization. The emphasis on the family attachment is behaviour change initiatives mainly with regard to currently prevalent non-communicable diseases. The students are attached to the Medical Officer of Health (MOH) areas of Dehiwala – Mount Lavinia and Ratmalana for the community attachment and the family attachment. The MOH areas are considered as the field training areas of the KDU.

The student research project enables the students to engage in systematic and ethical research under the guidance of the academic staff members of the Faculty. Students conduct their research in the field training area, in hospitals, at the KDU and at any other settings. During the ‘clinical’ attachment or the clerkship, the student learns about the health system and the supportive sectors, structures and services in Sri Lanka by visiting these places.

Family Medicine or primary care medicine is the discipline that integrates biomedical, behavioural and social sciences to provide curative and preventive care while addressing physical, psychological and social problems irrespective of age, sex or type of illness. Family

Medicine also includes coordination of care and continuity of care. These principles of family medicine/ primary care medicine that distinguishes it from other medical specialties are known to result in improved health outcomes. Classroom teaching as well as visits to private family practices in the community (Family Practice/ GP attachment) and other primary care settings in the state sector, will enable students to learn the organization of primary medical care services to the community and on how to deliver compassionate, person centred and family oriented care to individuals and families.

Intended learning Outcomes of the Public Health Programme

At the end of the course the student should be able to

1. acquire knowledge, skills and attitudes to assess health status of communities and families and plan and implement appropriate promotive, preventive, curative, and rehabilitative measures within the social, religious, cultural and economic milieu in the community.
2. communicate effectively with the community and health care team for health promotion and disease prevention in order to improve health and prevent disease.
3. acquire knowledge, skills and attitudes to provide promotive, preventive, curative and rehabilitative care to fulfill the health needs of the individual, family and community with responsibility.
4. apply the principles and concepts of epidemiology and statistics and carry out research, describe health issues, assess health status of the community and determine the effects of health interventions in the community.
5. plan, conduct and report research using a scientific and systematic approach to develop skills of critical thinking, logical reasoning and appraisal of medical evidence.
6. demonstrate qualities of a healthcare professional who applies ethical principles in public health practice, in conducting research and in one's personal life.
7. develop commitment to teach health professionals, educate the family and community to promote health and prevent disease.
8. acquire knowledge of the health care delivery system in Sri Lanka, public health control programmes and the relevant legal framework.
9. develop appropriate attitudes towards personal and professional development through reflective practice and life-long learning.

Intended Learning Outcomes of the Family Medicine Programme

At the end of the programme of study, the student should be able to

1. describe the doctor-patient relationship and acquire communication skills to elicit biomedical and psychosocial issues to understand the patient's illness experience.

2. use the patient-centred clinical method to take a focused history, carry out a relevant clinical examination, use selective investigations and institute a cost effective management plan after negotiating with the patient to ensure compliance.
3. acquire problem solving skills to sort out minor self-limiting illnesses from potentially serious diseases.
4. understand the psychological, social, behavioural and cultural factors that influence a patient's illness behavior and presentation for care.
5. have knowledge and understanding of family dynamics, the individual and family life cycle and factors that have an impact on the family in health and disease.
6. provide comprehensive curative and preventive care for common illnesses, non- communicable diseases, psychosocial problems and emergencies in the office, home or hospital.
7. coordinate a patient's health care through appropriate referral to specialists and other health resources in the community.
8. maintain medical records and provide continuity of care.
9. have knowledge and skills to care for the elderly and to provide end of life care and bereavement care.
10. have knowledge of ethical and legal issues in family practice.

The Academic Programme

Subject area	**Teaching learning method**	**Semester**
Epidemiology	Lectures – 19 hours Tutorial SGD 8 hours	4,5
Biostatistics	Lectures – 14 hours Tutorials/ SGD – 3 hours	4,5
Health care delivery system	Lectures – 8 hours Tutorials/ SGD – 2 hours	4,5
Demography	Lectures – 6 hours Tutorials/ SGD – 2 hours	5
Communicable and non-communicable disease epidemiology, Public Health Control Programmes of the Ministry of Health	Lectures – 40 hours Tutorials/ SGD – 6 hours	5
Maternal and child health	Lectures – 12 hours Tutorials – 4 hours	6

Environmental and occupational health, sanitation	Lectures – 12 hours Tutorials – 3 hours	6
Public health nutrition	Lectures – 8 hours Tutorials/ SGD – 2 hours	7
Clinical appointment	80 hours (4 weeks)	6
Family attachment	45 hours	6,7
Community attachment	45 hours	6,7
Research project	45 hours	6,7
Family medicine	Lectures– 15 hours SGD – 10 hours	6,7
Clinical appointment: Family Practice/ GP attachment	40 hours (2 weeks)	6,7

Assessments

Three continuous assessments will be held at the end of semesters 4, 5 and 6. At the end of the 7th semester, the 3rd MBBS Part II examination will be held.

Continuous Assessments 1, 2 and 3

Method of assessment	**No. of questions**	**Marks allocated to 3rd MBBS**	**Total marks allocated to 3rd MBBS**
MCQ and SBR	(32+8) 40	15	
SEQ	5	25	
Main viva		10	
Research project Report Viva	 3 7	 10	
OSCE/OSPE Public Health Family Medicine	 7 3	 10	
Community attachment Report Viva	 2.5 5	 7.5	
Family attachment			

Report Viva	2.5 5	7.5	
Contribution to 3rd MBBS			85
Continuous assessment contribution			15
Total marks			100

3rd MBBS Part 2 Supplementary Examination

Method of assessment	No. of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(32+8) 40	30	
SEQ	5	40	
OSPE/OSCE		20	
Main Viva		10	
Total marks			100

Recommended textbooks:

Public Health

- Basic Epidemiology. Beaglehole R, Bonita R. & Kjellström T 2nd edition, 2006, World Health Organization.
- Park's Textbook of Preventive and Social Medicine. Park K 21st edition, 2011, Banarsidas Bhanot Publishers, Jabalpu
- An Introduction to Medical Statistics. Bland M 3rd edition, 2000, Oxford University Press, Oxford
- Ageing population in Sri Lanka: Issues and future prospects. Siddhisena KAP. UNFPA and Population Association of Sri Lanka.
- Annual Health Bulletins, Ministry of Health, Colombo.
- Weekly Epidemiological Reports and Quarterly Epidemiological Bulletins, Epidemiology Unit, Colombo.
- Other booklets, circulars, leaflets etc of the units of Ministries of Health, Social Services, Environment, Labour etc, World Health Organization, Sri Lanka Medical Association, UNFPA, UNICEF etc and their websites

Family Medicine

- General Practice. Murtagh J, Third Edition, 2003, McGraw Hill Companies, Australia
- Lecture Notes in Family Medicine. Nandani de Silva, 2nd Edition, 2006, Sarvodaya Vishwa Lekha, Sri Lanka. Reprinted 2012.
- Essentials of Family Practice. Antoinette Perera, John Murtagh, 2007, Sarvodaya Vishwa Lekha.
- A textbook of Family Medicine. McWhinney IR. 1989, Oxford University Press.
- Essentials of Family Medicine. Sloane PD, Slatt LM, Ebell MH, Jacques LB.4th Edition, 2002, Lippincott Williams and Wilkins, Baltimore, USA.

THE CLINICAL SCIENCES

The student will study the clinical science subjects from 6th to 10th semesters. Clinical sciences include five main subjects including Clinical Medicine, Obstetrics and Gynaecology, Paediatrics, Psychiatry and Surgery. These subjects are the cornerstones of medicine for a practicing physician. The teaching-learning activities of these subjects include lectures, tutorials and clinical training.

The main assessment in the clinical sciences programme is the final MBBS examination, held at the end of the 10th semester assessing all 5 subjects. Meanwhile, end professorial assessments, mock exams, tutorials will be conducted at the end of each topic. To pass the Final MBBS examination, in each of the subjects, the student should score a minimum of 45% in theory papers and 50% in clinicals. A candidate obtaining 70% or more in a subject in the first attempt will be awarded a distinction pass in that subject.

MEDICINE

Duration of Course: 7 Semesters

The subject of clinical medicine aims to impart knowledge on recognition of diseases and disorders of internal medicine. The student will be taught the subject and skills required in the identification of physical signs and symptoms, the indications for basic and specific investigations in order to formulate a differential diagnosis and the ability to make a general and pharmacological management plan for treatment. The student will also develop the ability to explain medical conditions, their treatment and prognosis as well as the skills in establishing a good rapport with patients, their relatives and other medical colleagues.

Intended learning Outcomes

On completion of the series of lectures, tutorials, question based learning and clinical training the student will be able to

1. recognize diseases/ disorders of internal medicine.
2. identify physical signs and symptoms of the conditions.
3. apply knowledge to explain the underlying conditions.
4. determine indications for basic and relevant specific investigations.
5. interpret basic and specific investigation results relevant to different diseases/conditions.
6. outline non pharmacological and pharmacological management plans for the condition.
7. explain the outcome and prognosis of the condition.
8. develop good rapport, trust and ethical relationships with patients and families.
9. communicate relevant information and explanations effectively with the patients, families, colleagues and other professionals.
10. adopt the medical ethics applied to professional practice in all areas of internal medicine.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Cardiovascular System	Lectures – 15 hours Tutorials/ SGD/ PBL – 4 hours	6,7
Respiratory System	Lectures – 10 hours Tutorials/ SGD/ PBL – 3 hours	6,7
Central Nervous System	Lectures – 11 hours Tutorials/ SGD – 3 hours	7,8
Nephrology	Lectures – 8 hours Tutorials/ SGD/ PBL – 2 hours	8
Gastroenterology/ Liver Pancreas	Lectures – 10 hours Tutorials/ SGD/ PBL – 3 hours	8
Endocrine and Metabolic Disorders	Lectures – 14 hours Tutorials/ SGD/ PBL – 4 hours	8
Haematology	Lectures – 10 hours Tutorials/ SGD/ PBL – 2 hours	8
Infections	Lectures – 9 hours Tutorials/ SGD/ PBL – 2 hours	9
Rheumatology	Lectures – 5 hours Tutorials/ SGD/ PBL – 2 hours	9
Dermatology	Lectures – 6 hours	9
Geriatrics	Lectures – 6 hours	9
Medical Ethics	Lectures – 4 hours	9
Special Topics	Lectures – 5 hours	9

Nuclear Medicine	Lectures – 3 hours	9
Naval Medicine	Lectures – 3 hours	9
Aviation Medicine	Lectures – 3 hours	9

N.B. 4 tutorials will be held on the final 6 topics.
There will be 10 tutorials and 30 PBLs on various topics in the 10th Semester.

Clinical appointments

Specialty	Duration
General Medicine (1st)	8 weeks
General Medicine (2nd)	8 weeks
Cardiology	2 weeks
Rheumatology	2 weeks
Neurology	2 weeks
Nephrology	2 weeks
Sexually Transmitted Diseases	2 weeks
Dermatology	2 weeks
Pulmonology	2 weeks
Blood Bank	2 weeks
Oncology	2 weeks
Radiology	2 weeks
Professorial Appointment	8 weeks

During the clinical appointments in semesters 9 and 10, 15 ward classes will be held per semester.

Assessments

One continuous assessment will be held at the end of the professorial appointment. At the end of the 10th semester the final MBBS examination will be held.

Continuous Assessment

Method of assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
OSCE	10	
Viva	10	
Total		20

Final MBBS Examination

Method of Assessment No. of questions	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	20	
Long case – 1 case	20	
Short cases – 4 cases	20	
Contribution to Final MBBS examination		80
Continuous Assessment contribution		20
Total		**100**

Final MBBS Supplementary Examination

Method of Assessment No. of questions	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	30	
Long case	25	
Short Case – 4 cases	25	
Total		**100**

Recommended Textbooks:

- Kumar and Clark's Clinical Medicine,
  Kumar P, Clark M
  Saunders Elsevier, Philadelphia.

- Davidson's Principles and Practice of Medicine, Colledge NR, Walker BR, Ralston SH (eds)
  Churchill Livingstone, London.

- Oxford Hand Book of Clinical Medicine
  Longmore M, Wilkinson I (eds)
  Oxford University Press, Oxford.

- Hutchinson's Clinical Methods,
  Glynn M, Drake W (eds)
  Saunders Ltd, Philadelphia.

- Macleod's Clinical Examination
  Douglas G, Nicol F, Robertson C
  Churchill Livingstone, London.

SURGERY

Duration of Course: 7 Semesters

During this course, the student will impart the necessary knowledge and skills to evaluate simple surgical problems and manage them. In order to do so, the student is taught history taking in an orderly manner, eliciting the physical signs and interpreting them. Further knowledge will develop the ability to formulate a differential diagnosis and outline a simple management plan. The students will also be taught the method of identifying major surgical problems; critical illnesses and emergencies in the field of surgery that require senior review and intervention. During the clinical appointments, the student is expected to acquire knowledge, perform pre-operative preparation and to manage the post-operative period of a variety of surgical problems. Students are expected to learn the common procedures performed in a surgical ward and be able to perform them during their internship and thereafter. In addition, they are expected to acquire experience in the doctor- patient relationship, dealing with relatives of patients, working with other categories of staff in the hospital environment, ethics and documentation. The aim of the course is to enable the student to work in a surgical ward as a house officer after passing the final MBBS examination and as a competent medical officer thereafter. This is the foundation of surgery upon which students who choose to proceed with postgraduate training in surgery will build on.

Intended Learning Outcomes

On completion of the series of lectures, tutorials, laboratory skills and clinical training the student is expected to be able to

1. obtain a history and elicit physical signs in a surgical patient and outline a simple management plan.
2. formulate a differential diagnosis and arrive at a working diagnosis.
3. choose the relevant investigations to be done to confirm the diagnosis and their interpretation.
4. choose the special investigations required and request them in consultation with seniors.
5. formulate and carry out an initial treatment plan.
6. perform the initial management of surgical emergencies including trauma with the help of seniors.
7. communicate with relatives and patients whilst maintaining professionalism and ethics.
8. develop healthy relationships with colleagues and hospital staff.

The Academic Programme

Subject Area	Teaching /Learning Method	Semester
Preoperative care	Lectures – 8 hours Tutorials/SGDs/Skills/PBL -4 hours	6
Basic Surgical techniques	Lectures – 3 hours Tutorials/SGDs/Skills /PBL-2 hours	6
Medico-legal aspects	Lectures – 1 hours Tutorials/SGDs/Skills -4 hours	6
Vascular surgery	Lectures –5 hours Tutorials/SGDs/Skills -2 hours	6
Thorax	Lectures –1 hour Tutorials/SGDs/Skills -2 hours	6
Head and neck	Lectures –3 hours Tutorials/SGDs/Skills -1 hours	6
GIT	Lectures –9 hours Tutorials/SGDs/Skills -8 hours	7
Hepatobiliary system and pancreas	Lectures – 4 hours Tutorials/SGDs/Skills -2 hours	7
Abdominal wall/Abdomen	Lectures –3 hours Tutorials/SGDs/Skills -1 hour	7
Musculoskeletal disorders	Lectures –6 hours Tutorials/SGDs/Skills -1 hour	7
Endocrine surgery	Lectures – 4 hours Tutorials/SGDs/Skills -2 hours	7
Management of trauma/Critical care	Lectures –11 hours Tutorials/SGDs/Skills -10 hours	8
Chemical, radiological biological and nuclear warfare	Lectures –5 hours Tutorials/SGDs/Skills -2 hours	8
Principles of oncology	Lectures –6 hours Tutorials/SGDs/Skills -6 hours	8
Urology	Lectures –8 hours Tutorials/SGDs/Skills -8 hours	9
Paediatric Surgery	Lectures –7 hours	9
Eye	Lectures –2 hours	9
ENT (Otorhinolaryngology)	Lectures –3 hours	9
Radiology and current concepts	Lectures –3 hours	9

Skills / Laboratory session	Hours 12	1 & 10

Clinical appointments

	Speciality	Duration
1	General Surgery (1st)	8 weeks
2	General Surgery (2nd)	8 weeks
3	Orthopaedic Surgery	4 weeks
4	Otorhinolaryngology(ENT)	2 weeks
5	Urology	2 weeks
6	Ophthalmology	2 weeks
7	Trauma	2 weeks
8	Vascular	2 weeks
9	Anaesthesiology and Critical Care	1 week
10	Oncosurgery	2 weeks
11	Vascular surgery	1 week
	Total number of weeks	**34 weeks**

Professorial clinical appointment	
Surgery	8 weeks

During the clinical appointments in semester 9 and 10, ward classes will be held.

Assessments

One continuous assessment will be held at the end of the professorial appointment. At the end of the 10th semester the final MBBS examination will be held.

Continuous Assessments

Method of Assessment	Marks allocated for final MBBS	Total Marks allocated for final MBBS
OSCE	10	
Viva	10	
Total		20

Final MBBS Examination

Method of Assessment No. of questions	Marks allocated to final MBBS	Total marks allocated to final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	20	
Long case – 1case	20	
Short cases	20	
Total		80
Continuous assessments		20
Total		100

Final MBBS supplementary Examination

Method of Assessment No. of questions	Marks allocated to final MBBS	Total Marks allocated to final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	30	
Long case – 1case	25	
Short cases	25	
Total marks0		100

Recommended textbooks:

- Bailey & Love's Short Practice of Surgery
  Williams N, Bulstrode C, O'Connell PR (eds)
  26th edition, 2013
  Arnold Publications, London. (Hodder Headline Group)

- Lecture Notes: General Surgery
  Ellis H, Calne R, Watson C
  12th edition, 2011
  Wiley-Blackwell, Oxford.

- Browse's Introduction to the Symptoms and Signs of Surgical Disease
  Black J, Browse NL, Burnand KG, Thomas WEG
  4th edition, 2005
  Hodder Arnold Publications, London.

Supplementary Reading

- Clinical Surgery Made Easy
  1st Edition 2008
  TFM Publishing Ltd.

- Hamilton Bailey's Physical Signs. Demonstrations of Physical Signs in Clinical Surgery
  Lumley JSP
  (ed) 18th edition,
  1997
  Butterworth Heinemann, Oxford.

PAEDIATRICS

Duration of Course: 7 Semesters

Paediatrics is the branch of medicine that deals with the care of infants, children, and adolescents. The age limit ranges from birth up to 18 years of age. However, due to practical considerations the upper limit may extend up to 21 years, especially for chronic diseases such as diabetes where the child transfers from paediatrics to adult medicine though a transitional period of shred care.

A medical practitioner who specializes in paediatrics is known as a paediatrician. The word *paediatrics* means "healer of children". It is derived from the two Greek words ***"pais"*** meaning child and "*iatros*" meaning healer.

A child is a part of a family and a larger community. Hence, a paediatrician needs to work with members of families and communities in caring for children. Therefore, Pediatricians work both in hospitals as well as in the primary health care settings in communities.

Paediatrics encompasses all issues relating to child health. Hence, growth, nutrition, development and immunization all fall within the gambit of paediatrics, apart from the usual childhood diseases. The assessment of nutritional status and monitoring of growth and development are integral to paediatrics. The detection and management of abnormal growth and delayed development is an essential component of paediatric practice. Childhood immunization is another area, which is closely linked to child health and overall well-being.

Children are not miniature adults and paediatrics differs vastly from adult medicine. These differences are seen right across the pediatric practice. For example, although history taking is a very important skill in paediatrics as well as in all other branches of medicine, the pediatric patient may not be able to give a comprehensive history. Hence, the role of parent or guardian becomes vital. Also the format and technique of physical examination as well as the differential diagnoses reached, differ considerably between the different age groups within paediatrics. In the management of illnesses, the pediatric patient should be seen as a part of a family and community rather than an isolated entity. The circumstances or the family and the community should be considered if a successful outcome is to be expected.

This course aims to impart the knowledge and skills required for the medical student to work in a paediatric ward as an intern house officer and later on as a primary health care provider for children and families.

Intended Learning Outcomes

General Objectives

On completion of the series of lectures, tutorials, laboratory skills and clinical training the student is expected to be able to

1. diagnose and treat common childhood diseases.
2. identify and refer conditions needing specialized management.
3. manage a paediatric emergency in a primary care setting.
4. advice individuals, families and community on maintaining a child in good health.
5. function as a house officer in a paediatric unit in a Base/General/Teaching hospital in Sri Lanka.
6. understand the scientific basis of paediatrics in order to proceed to further specialization in the subject if he/she so desires.

Specific objectives of clinical training

On completion of the series of lectures, tutorials, laboratory skills and clinical training the student is expected to be able to

1. take a complete and relevant paediatric history.
2. do a complete and relevant physical examination of a neonate, infant, preschool and a school child.
3. assess growth using appropriate growth charts.
4. do a basic developmental screening.
5. at the end of history and physical examination the student should be able to
    a. give a probable diagnosis and differential diagnosis.
    b. give reasons for arriving at the diagnosis.
    c. compile a list of problems that the child has.
    d. suggest investigations needed to confirm the diagnosis.
    e. interpret the investigation results.
    f. draw up a plan of management.
    g. write a prescription appropriate for the child.
    h. explain to the parents in simple language, the problem that the child has and what needs to be done.
    i. summarize the patients problems adequately to a group.
    j. write clear concise and relevant progress notes for the patient.
    k. write a diagnosis card (discharge summary) for the patient.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Introduction to Paediatrics	Lecture - 2 hours	6
Care of the child 1 to 5 years	Lecture - 6 hours	6
The new born	Lectures - 20 hours Tutorials - 4 hours Slide show- 2 hours	7
Growth and development	Lectures- 12 hours Tutorials- 2 hours Slide show- 2 hours	7
Nutrition	Lectures-16 hours Tutorials – 4 hours	7
Immunization	Lectures 2 hours	7
Childhood infections	Lectures- 10 hours Tutorials- 2 hours	7
Cardiovascular diseases	Lectures -10 hours Tutorials - 2 hours	8
Respiratory diseases	Lectures - 10 hours Tutorials - 4 hours	8
Gastrointestinal disease	Lectures- 6 hours Tutorials- 2 hours	8
Genitourinary diseases	Lectures -10 hours Tutorials- 2 hours	8
Central Nervous system diseases	Lectures- 8 hours Tutorials- 2 hours	8
Paediatric Haematology	Lectures- 8 hours Tutorials- 2 hours	8
Paediatric Endocrine disorders	Lectures - 10 hours Tutorials- 2 hours	8
Paediatric oncology and immunology	Lectures- 8 hours Tutorials- 2 hours	9
Orthopaedic problems in children	Lectures- 4 hours Slide show- 2 hours	9
Child psychiatry	Lectures- 4 hours Tutorials- 2 hours	9
Miscellaneous topics	Lectures- 10 hours	9

Description of the course
Paediatrics will be taught from semester 4. Teaching activities will include 4 clinical appointments and theoretical teaching.

Theoretical Teaching
Theoretical teaching will be in the form of lectures, tutorials and small group discussions.
NB: Tutorials will be held on selected topics during semesters 9 & 10.

Integrated Ward Class
Integrated Ward Classes will be done during the professorial appointment.

Clinical Appointments
Paediatrics will be taught during 4 clinical appointments.

1. Foundation course - semester 3 / 4 - (1 week) conduct by academic staff of the Department Paediatrics at UHKDU.
2. Paediatrics 1st appointment – semester 5-4 weeks
3. Paedatrics 2nd appointment – semester 6-4 weeks

Conducted by a Consultant Paediatrician attached to a teaching/ provincial/ base hospital outside UHKDU

4. Professorial Paedaitrics appointment – semester 8, 9 & 10- (8 weeks) conducted by the academic staff of Department of Paediatrics UHKDU.

Clinical appointments

Speciality	Duration
General Paediatrics (1st)	4 weeks
General Paediatrics (2nd)	4 weeks
Professorial Appointment	8 weeks

Assessments

One continuous assessment will be held at the end of the professorial appointment. At the end of the 10th semester the final MBBS examination will be held.

End Professorial Assessments

Method of Assessment No of questions	Marks allocated to each component	Total marks allocated to Final MBBS
OSCE	10	
Viva	10	
Total		20

Final MBBS Examination

Method of assessment	Marks allocated to each component	Total marks allocated to Final MBBS
Paper 1 – MCQ/BRQ (SBR)	20	
Paper 2 – SEQ	20	
Long case – 1 case	20	
Short case – 02 cases	20	
Contribution from summative examination		80
Continuous assessment contribution		20
Total marks		**100**

Final MBBS Supplementary Examination

Method of Assessment No. of questions	Marks allocated to each component	Total marks allocated to Final MBBS
Paper 1 – MCQ	20	
Paper 2 – SEQ	30	
Long case- 1 case	25	
Short case – 02 cases	25	
Total		**100**

Recommended textbooks:

- The Illustrated Textbook of Paediatrics Lissauer T, Clayden G 4th edition, 2011 Mosby Elsevier, Missouri

- Essential Paediatrics Hull D, Johnston DI Latest edition, Churchill Livingstone, London.

- Hospital Paediatrics, Milner AD, Hull D Latest edition, Churchill Livingstone, London.

- Ghai Essential Paediatrics Vinod K Paul, Araum D Bagga 8th edition

- Text Book of Paediatrics Fofar and Arneil Latest edition

Supplementary reading

- Nelson's Textbook of Paediatrics Latest edition

OBSTETRICS AND GYNAECOLOGY

Duration of Course: 7 semesters

The subject of obstetrics and gynaecology is a surgical and medical specialty that focuses mainly on the female reproductive system and the care of women. However, when appropriate other systems such as the cardiovascular and endocrine systems are studied and discussed.

Obstetrics focuses on physiological and abnormal events related to pre-pregnancy, pregnancy, childbirth and the puerperium. Gynecology is geared towards general healthcare of females from adolescent to menopause, with a special focus on physiological and pathological conditions in the female reproductive organs.

Intended Learning Outcomes

On completion of the course the students should acquire the required knowledge, skills and attitudes to function under supervision and mentorship as an intern house officer and later as a medical officer in obstetrics and gynaecology at main hospitals, primary health care institutions and private sector to provide the best care with a humane approach.
As a medical officer he/she should also acquire the skill to seek advice and to refer to appropriate institutions or specialists at the earliest when it is not possible to provide what is best for the patient and the family.
It is desirable for the students to acquire the correct mind set to continue in further education to keep abreast with the constantly evolving advances in obstetrics & gynaecology.

To achieve above the following key learning objectives are formulated and implemented during the course.

1. Counsel and manage all aspects of normal pregnancy, labour, delivery and puerperium without any further resident training.
2. Counsel and manage common gynaecological problems without further resident training.
3. Provide the initial management of common obstetric & gynaecological emergencies without further resident training.
4. Recognize common abnormalities of pregnancy, labour, delivery and puerperium and to understand the principles of management of such abnormalities.
5. Describe principles of early diagnosis of gynaecological malignancies and other important gynaecological problems.

6. Perform duties of an intern house officer in obstetrics & gynaecology under supervision following graduation.
7. Provide basic care at primary and secondary level to pregnant women during antenatal, labour and puerperium.
8. Diagnose and manage gynaecological problems as a medical officer in the state sector or as a family practitioner.
9. Counsel and promote prevention and methods available for screening of obstetric and gynaecological problems.
10. Show continued desire to broaden knowledge by further self-study and research.
11. Value the importance of Continued Professional Development.
12. Acquire and demonstrative communication skills and attributes of professionalism.
13. Function as an effective member in a health team.
14. Establish a foundation to further specialize in obstetrics & gynaecology if desired to do so.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Introduction, History taking and examination	Lectures –3 hours Tutorial/skills – 2 hours	6
Good clinical practice, evidence based medicine and the WHO reference library	Lectures – 1 hour	6
Obstetrics and Gynaecology in the community	Lectures – 1 hour	6
Physiological changes in pregnancy	Lectures – 1 hour	6
Antenatal care	Lectures – 6 hours Tutorial – 4 hours	6,7
Labour and complications of labour	Lectures – 6 hours Tutorials/ Skills –12 hours	6,7
Post-natal care	Lectures – 1 hour	6,7
Pre-eclampsia/ eclampsia	Lectures – 1 hour Tutorial – 2 hours	7,8
Medical complications of pregnancy	Lectures – 4 hours Tutorials – 2 hours	7,8
Caesarean section and post-operative care	Lectures – 1 hour	7,8
Causes and management of death in utero	Lectures – 1 hour	8,9
Multiple pregnancy, abnormal lie and presentation	Lectures – 2 hours Tutorials/skills – 2 hours	8,9
Viral infections and sexually transmitted disease	Lectures – 1 hour	8,9
Drugs in pregnancy and lactation	Lectures – 1 hour	8,9
Blood group incompatibility	Lectures – 1 hour	8,9
Human genetics and genetic disorders	Lectures – 1 hour	8,9
Code of conduct for medical officers, ethics, reproductive health and sexual rights	Lectures – 1 hour	8,9
Complications of early pregnancy	Lectures – 1 hour	8,9
Disorders of genetic and acquired abnormalities of HPOE axis.	Lectures – 1 hour	8,9

Gynaecological disorders	Lectures – 17 hours Tutorials/ skills – 14 hours	9,10
Revision ad Exam technique	Lecture – 1 hour	9,10

NB. In addition to the above, there will be 10 problem based learning classes on selected topics.

The syllabus of the training programme consists of 21 modules. Under each module the content areas, objectives, outcomes and teaching methods are described in detail. These will be made available to the students on commencement of this course.

Methods of training

The training will include lectures, tutorials, seminars, problem based learning, reflective learning, self-study and clinical training. The summaries of key teaching activities are indicated in the tables below.

Summary of clinical teaching activities

During the clinical appointments there shall be face to face teaching facilitated by the teachers and self-learning activities in the wards, clinics, diagnostic units, labour ward and operating theatres. During the clinical appointments the portfolio/logbook should be maintained.

APPOINTMENT	DURATION	SEMESTER
Obstetrics & Gynaecology (1st)	4 weeks	7
Obstetrics & Gynaecology (2nd)	4 weeks	8
Professorial O & G	8 weeks	9 and 10
TOTAL	**16 weeks**	

Assessments

There shall be two forms of assessments; Continuous (formative) and final MBBS (summative)

The continuous assessment will be held at the end of the professorial appointment. At the end of the 10th semester the final MBBS examination will be held.

Continuous Assessment (formative)

Method of assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
OSCE	10	
Viva	10	
Total		20

Final MBBS Examination (summative)

Method of assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 - MCQ (20 true/false and 30 SBA questions)	20	
Paper 2 – SEQ (6 questions)	20	
Long case – 2 cases (one case each for Obstetrics and Gynaecology)	40	
Contribution to final MBBS examination		80
Continuous assessment contribution		20
Total marks		**100**

Final MBBS Supplementary Examination

Method of Assessment No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
Paper 1 - MCQ (20 true/false and 30 SBA questions)	20	
Paper 2 – SEQ (5 questions)	30	
Long case – 2 cases (one case each for Obstetrics and Gynaecology)	50	
Total marks		**100**

Recommended textbooks

- Obstetrics Illustrated
Authors: Kevin P.
Hanretty Edition: 7th
Year of publication: 2009

- Gynaecology Illustrated
Authors: Catrina Bain, Kevin Burton, Jay
McGavigan Edition: 6th
Year of publication: 20100

- Essential Antenatal Care
Author : Deepal S
Weerasekara
Edition: 02nd
Year of publication: 2021

- Essential Labor and puerperium Care
Author: Deepal S Weerasekara
Edition : 03rd
Year of Publication - 2020

- Obstetrics by Ten Teachers
Authors: Philip Baker, Louise
Kenny Edition: 20th
Year of publication: 2019

- Gynaecology by Ten Teachers
Authors: Ash Monga, Stephen
Dobbs Edition: 20th
Year of publication: 2019

Supplementary Reading

- Oxford Handbook of Obstetrics and Gynaecology
Authors: Sally Collins, Sabaratnam Arulkumaran, Kevin Hayes Edition: 2nd
Year of publication: 2011

- Clinical Obstetrics by Ten Teachers
Authors: Philip Baker, Louise Kenny Edition:19th
Year of publication: 2011

- Clinical Obstetrics and Gynaecology
Authors: J.Drife, B.Magowan Edition: 2nd
Year of publication: 2009

- WHO Reproductive Health
Library www.who.int/rhl

PSYCHIATRY

Duration of the course: 4 semesters

Psychiatry is a branch of medical science concerned with mental and behavioural disorders. It is one of the five major clinical disciplines examined in the final MBBS examination.

During this course, a student will be imparted the necessary knowledge, skills and attitudes to recognize and evaluate common psychiatric and behavioural problems and manage them.

Students will also learn to identify problems which require referral to specialized treatment. The aim of the course is to enable a student to be able to identify and do the basic management till referred to specialized care for behavioural problems seen in general hospital settings as a competent house officer and a general medical officer thereafter. This will be the foundation of Psychiatry upon which students who choose to proceed with postgraduate training in psychiatry will build on.

Intended Learning Outcomes

General Objectives

On completion of this course the student will be able to

1. organize clinical data from psychiatric interview and mental status examination to hypothesize reasonable psychiatric diagnoses and psychosocial circumstances or stressors.
2. demonstrate knowledge about common psychiatric presentations.
3. recognize potential risks and psychiatric emergencies among general medical patients.
4. demonstrate knowledge about commonly available psychiatric medication.
5. identify and refer conditions needing specialist management.
6. understand the parameters of ethical clinical practice.
7. demonstrate knowledge about medical and medico-legal interventions (psychiatric referrals, involuntary commitment, judgments of medical incompetence).
8. demonstrate ability in psycho-education.
9. be familiar with psychiatric services available in Sri Lanka.
10. understand the scientific basis of psychiatry in order to proceed to further specialization if the student desires.

Specific Objectives of Clinical Training

At the end of the clinical training the student should be able to

1. demonstrate the ability to conduct a psychiatric interview and perform a mental state examination.
2. give a probable diagnosis and differential diagnosis giving reasons for justification.
3. recognize the clinical characteristics of the following mental disorders: major depression, bipolar disorder, schizophrenia, schizoaffective disorder, panic disorder, generalized anxiety disorder, PTSD, obsessive- compulsive disorder, personality disorders, substance use disorders, cognitive disorders, organic psychiatric conditions, psychiatric conditions related to general medical disorders, disorders in puerperium, acute stress and adjustment disorders, somatoform disorders, attention-deficit/hyperactivity disorder (ADHD) and other common childhood conditions.
4. the student will demonstrate the ability to provide coherent, thoughtful presentations of psychiatric patients in both oral and written forms.
5. the student will recognize indications for treatments of patients with mental disorders.
6. be familiar with laboratory and other types of testing (e.g., psychological tests).
7. the student will demonstrate the ability to work in a multidisciplinary team.
8. the student will demonstrate the capacity to respond appropriately to constructive feedback given by instructors.

Subject Area	Teaching/Learning Method	Semester
Introduction to psychiatry	Lectures – 2 hours	4
History taking and assessment of mental state	Lectures – 4 hours	4, 8
Psychopathology	Lectures – 4 hours	8-10
Classification of psychiatric disorders	Lectures – 2 hours	8-10
Delirium	Lectures – 2 hours	8-10
Dementia	Lectures – 2 hours	8-10
Alcohol and psychoactive substance disorders	Lectures – 4 hours	8-10
Schizophrenia and other psychotic disorders	Lectures – 4 hours	8-10
Affective disorders	Lectures – 4 hours	8-10
Generalized anxiety disorder and Panic disorder	Lectures – 2 hours	8-10
Phobic disorder	Lectures – 2 hours	8-10
Obsessive compulsive disorder	Lectures – 2 hours	8-10
Stress related illnesses	Lectures – 2 hours	8-10
Defence Mechanisms	Lectures – 2 hours	8-10
Deliberate self-harm	Lectures – 2 hours	8-10
Dissociative disorders	Lectures – 2 hours	8-10
Somatization disorders	Lectures – 2 hours	8-10
Sleep, eating and sexual disorders	Lectures – 4 hours	8-10
Pregnancy and postpartum disorders	Lectures – 2 hours	8-10
Personality Disorders	Lectures – 2 hours	8-10
Child psychiatry	Lectures – 10 hours	8-10
Intellectual disability	Lectures – 2 hours	8-10
Forensic psychiatry	Lectures – 2 hours	8-10
Community psychiatry	Lectures – 2 hours	8-10
Medically unexplained physical symptoms	Lectures – 2 hours	8-10
Emergencies in psychiatry	Lectures – 2 hours	8-10
Military Psychiatry	Lectures – 4 hours	8-10
Psychopharmacology and other treatments in	Lectures – 4 hours	8-10

psychiatry		
Psychological treatments	Lectures – 6 hours	8-10

NB: 30 Tutorials/PBL/Seminars will be held on selected topics during semesters 8-10.

Clinical appointments

Specialty	Duration
Psychiatry (1st) **One week at Military Hospital**	4 weeks
Professorial Appointment	8 weeks

During the clinical appointments in semesters 9 and 10, 15 ward classes will be held per Semester.

Assessments

One continuous assessment will be held at the end of the professorial appointment. Continuous assessment in psychiatry will constitute a viva based on the case book. At the end of the 10th semester, the final MBBS examination will be held.

Continuous Assessment

Method of Assessment	Marks allocated	Total marks allocated to Final MBBS
Case book based viva	10	**10**

Final MBBS Examination

Method of assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQ/BRQ (50)	25	
Paper 2 – SEQ	25	
Long case- 01 case	25	
OSCE/Short Case- 04 cases	15	
Contribution from summative examination		90
Continuous assessment contribution		10
Total marks		**100**

Final MBBS Supplementary Examination

Method of assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQ	25	
Paper 2 – SEQ	25	
Long case	30	
OSCE /Short Cases	20	
Total Marks		**100**

Recommended Textbooks:

- Textbook of Psychiatry Puri BK, Treasaden IH 3rd edition, 2011 Churchill Linvingstone, London.
- Handbook of Clinical Psychiatry, a Practical Guide, de Silva V, Hanwella R 2012 Kumaran Book House, Chennai.
- Psychiatry: An Oxford Core Text Gelder M, Mayou R, Geddes J 3rd edition, 2005 Oxford Medical Publications, Oxford.

RULES FOR STUDENTS

GENERAL RULES

Some general rules applicable to students of the FOM are given below. A more comprehensive list of rules issued by the Faculty of Defense Studies is given separately.

Any change of address must be immediately brought to the notice of the Dean.

Students are not permitted to leave their registered address during term time without prior permission from the Dean.

A student is not permitted to be absent from work for more than 7 days without informing the Dean.

IN CASE OF ILLNESS

a. Illness during term time

If the student is taken ill during term time he/she should inform the University Medical Officer as early as possible. If the student is unable to do so, he/she should inform the Dean in writing by registered post as early as possible AND submit within SEVEN days of falling ill, a valid medical certificate issued by one of the persons listed under (c) below.

b. Illness at examination time (including continuous assessment)

If a student is taken ill just before or during any part of an examination, he/she should inform the UMO as early as possible. If the student is unable to do so for a valid reason, he/she should inform the Dean in writing by registered post as early as possible AND submit a valid medical certificate from one of the persons listed under (c) below, within SEVEN days of falling ill.

c. Persons entitled to issue valid medical certificates for the above purposes

(1) Medical officer of a Military Hospital or SLAF/SLN Hospital
(2) A consultant of any government hospital
(3) A District Medical Officer (DMO) in a government hospital

a. PLEASE NOTE that medical certificates from medical officers other than those listed will NOT be accepted.

b. A medical certificate is not valid unless it has been submitted within ONE WEEK of the illness.

Students are expected at all times to dress neatly and behave with decorum. Gathering together and talking in loud tones whether in hospital, clinic or in the vicinity of the officers, library or lecture halls is banned. Smoking is prohibited in the premises of the University and the Teaching Hospitals.

No student or student body shall collect monies for any purpose without written permission from the Dean.

Only official functions approved by the Vice Chancellor may be organized and held within the FOM.