

Amended Curriculum of the MBBS Degree Programme

**Faculty of Medicine
University of Peradeniya**

05th June, 2013

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Section I: Overview of the proposed amendments

Background

The Faculty of Medicine, University of Peradeniya (FOM/UoP), strongly believes that a curriculum is a dynamic entity. Accordingly, the curriculum of the MBBS degree programme has been revised intermittently, taking into consideration modern educational principles, demands of the profession and the needs of the society it serves.

Extensive revision of the discipline based conventional curriculum of the Faculty took place in 2004 with emphasis on early clinical relevance, integration, self-directed, and system-based learning, continuous professional development and community oriented learning. During the process of revision recommendations of the World Federation of Medical Education (WFME) 2003, were considered, conforming to the needs and demands of the modern world. The revised curriculum was first introduced to the group of students of the year 2004/2005, in 2005. In keeping with these requirements the curriculum was organised in four streams (section 1.4).

Subsequently, the curriculum underwent several minor revisions in the recent past.

1.1. Senate documentation in relation to curriculum revision in the last decade is as follows;

Senate Minute Number	Title
ST/ 286/29	The Beyond 2004 program amendments to the current MBBS program
ST/316/19	Examination regulations of the MBBS curriculum
ST 333.8.7.4	Revised Doctor in Society (DIS) examination format
ST 353.8.9.1.16	Current MBBS curriculum and the rules and regulation governing this course
ST 359.8.7.9	3rd year modules of the MBBS curriculum and examinations
ST 359.8.7.10	Psychiatry as a final year subject

The amended curricular document submitted herewith, when approved, will replace the amendments stated in table (1.1).

1.2 The Mission of the Faculty of Medicine, University of Peradeniya:

The Mission of the Faculty of Medicine University of Peradeniya is to:

- produce scientifically trained, socially responsible, compassionate doctors and instill in them a spirit of inquiry and learning.
- contribute to the body of knowledge in medicine and allied fields in a meaningful manner.
- help serve the immediate and long term medical and social needs of our society.

1.3 Broad objectives of the MBBS course, 2005

The MBBS graduate should:

1. possess an attitude towards medicine that is both scientific and humane and have high ethical standards required for professional life.
2. possess adequate knowledge, skills and attitudes that will enable the holistic management of medical problems affecting individuals and the community.
3. be able to deal appropriately with all emergencies utilizing the facilities available.
4. be aware of the limitations of knowledge and skills and be prepared to seek help when necessary.
5. be able to work in a team, and provide leadership in activities related to health.
6. be able to provide medico-legal services to the judicial system of the country.
7. be able to assess evidence both as to its reliability and relevance and appreciate that conclusions are reached by logical deductions.
8. be able to continue self education and contribute towards progress of medical sciences.
9. demonstrate knowledge of the interaction between the man and environment and their responsibility in promoting a healthy environment.
10. be able to communicate effectively with fellow practitioners, patients and their families, other professionals and the public.

1.4 Curriculum organizational structure:

The subject content of the MBBS course, organised under four streams are as follows;

- **Scientific Basis of Medicine (SBM)**

Providing the knowledge base to perform clinical laboratory management skills (ie. *Foundation, Locomotion, Blood and circulation, Respiration & gas exchange, Alimentation, Excretion & reproduction, Nervous system, Endocrine function, Homeostasis & metabolism, Growth, development, nutrition & ageing (1), Infection (1), Integrated human biology, Foundation in Pathology, Foundation in Pharmacology, Systematic Pathology (I & II), Systematic Pharmacology (I & II), Defenses of the body, Infection (2), Growth, development, nutrition & ageing (2), Haematology, Medical imaging)

* Foundation module (Med 1101) will be completed before starting the modules for which the Foundation module is a prerequisite.

- **Communication, Learning and Research (CLR)**

Improving communication skills, English proficiency, Web based learning and Research skills

- **Doctor in Society (DIS)**
Empowering doctors' role in society in relation to population issues and judicial medicine issues.
- **Hospital and Community based Training (HCT)**
This stream provide opportunities for the students to learn in the real working environment.
It covers hospital based clinical training in medicine, surgery and related subspecialties, paediatrics, obstetrics and gynaecology, psychiatry, anaesthesia and critical care, forensic Medicine, radiology and community clerkship. Occurs over a period of 3 years from 3rd year onwards.

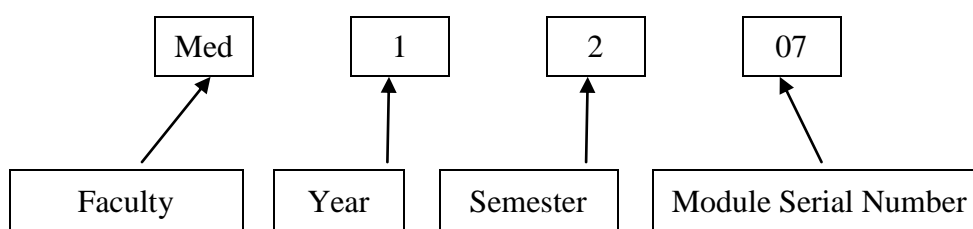
In order to ensure a degree of integration that is feasible in the current context, several themes were identified.

15 Themes

- Normal structure to perform function, regional structure, integrated functions, basis of dysfunction (**Years 1 & 2**)
 - Mechanisms of diseases
 - Principles of management
 - Holistic management of patients
- } **Years 3, 4, 5**

1.6. Notations used in the document

1.6.1. Notation for Modules



1.6.2. Notations for Teaching/ Learning activities

- **Practical Work** - Laboratory Practicals/ Role plays/ Dissections/ In-class assignments
- **SGD** - Small Group Discussion
- **SGL** - Student Generated Learning with teacher assistance (non credit)

1.6.3 Calculation of credits

One credit is equivalent to 15 hours of lectures/SGD/tutorial or 30 hours of practical work.

SGL is not credited.

2. Documents referred to in the process of Curriculum Development, 2013

The following documents served as a guide and desirable knowledge, skills and attitudes identified in the documents, were considered and adopted during the process of revision.

1. Guidelines and specifications on standards and criteria for accreditation of medical schools in Sri Lanka and courses of study provided by them. Sri Lanka Medical Council - 2011
2. Subject benchmark statement in Medicine. Committee of Vice Chancellors and Directors and University Grants Commission - May 2006
3. Tomorrows doctor. General Medical Council UK - 2009
4. Sri Lanka Qualifications Framework. Ministry of Higher Education - 2012
5. Strategic framework for strengthening undergraduate medical education in addressing the current health challenges. World Health Organization -2012

3. The process of Curriculum Development, 2013

The current revision was the result of several stakeholder consultations, which included regular feedback from students, teaching faculty and extended faculty. Feedback received from the quality assurance and accreditation council was also considered.

At the curriculum revision meetings chaired by Dean/ Medicine there was consensus on the organization of the non clinical component of the MBBS course from year 1 to 4, which resulted in changes to the sequencing of all modules and changes to the credit value of some modules.

Subsequently, content of modules and assessment formats were revised by the respective module committees and the final document was submitted by the module coordinator using the ADPC template B.

The curriculum of years 1-4 is arranged in semesters with each academic year comprising of two semesters, each of 15 weeks duration. However, the clinical curriculum (HCT stream) is not arranged in semesters and it commences in the third year after the second year barrier and continues from third to fifth year.

4. Student assessment

Refer sections III & IV for Rules and regulations governing student assessment in the amended MBBS curriculum.

Section II: Module Description

Course No	: Med 1101
Course Title	: Foundation
Credits	: 6
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To provide an introduction to the structure and functions of the body, early embryogenesis and genetics as a prerequisite to understand the structure and function of the body in detail. The module also provides an overview on health, biological variation, imaging modalities in medicine and different systems of generating knowledge.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • define the term health and describe determinants of health. • describe the basic structure of the cell and state the levels of organization of the multi-cellular organism including general arrangement of the nervous system. • outline the synthesis of bio-molecules and describe the functions of bio-molecules and membranes. • describe the function and regulation of enzymes, the basics of the mechanisms generating cellular energy. • state the events of cell cycle and describe cell division. • describe tissue types and identify them under light microscope. • explain the mechanisms that maintain body homeostasis. • describe early embryogenesis. • provide an overview of human genetics and the structure and abnormalities of chromosomes. • describe the different ways of generating knowledge. 	
Time Allocation : Lectures 64 h , Tutorials/ SGD 12 h , Practical Work 28 h , SGL 8 h	
Course Syllabus/ Course Description Introduction to health and determinants of health, Anatomy- overview, structure and microscopic appearance of the cell, Cell basics, Membrane and bio-molecules, Enzymes, Regulation of enzyme activity, Energy for the cell, Synthetic functions, Tissues of the body, Homeostasis, Introduction to nervous tissue and nervous system, Autonomic nervous system, Early embryogenesis, Human genetics, Human evolution, Free radicals and antioxidants, Basic statistics, Units and measurements, Introduction to imaging	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Lippincott's Illustrated Reviews: Biochemistry by R.A. Harvey & D.R. Ferrier
2. Harper's Illustrate Biochemistry by R. Murray et al
3. Biochemistry by J.M. Berg, J. L. Tymoczko and L. Stryer.
4. Textbook of Medical Physiology by A.C. Guyton and J.E. Hall
5. Last's Anatomy: Regional and Applied by C.S. Sinnatamby
6. Wheater's Functional Histology: A Text and Colour Atlas by B. Young et al
7. Human Embryology by Prof. Malkanthi S. Chandrasekera
8. Gray's Anatomy for students

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 1102
Course Title	: Locomotion
Credits	: 5
Prerequisite	: Completion of Foundation (Med 1101)
Core/ Optional	: Core
Aim/s: To enable the student to understand the organization, growth and development of tissues of the musculoskeletal system and limbs with reference to their functions and compensation of functional demands to deduce the basis of disorders, diagnostics and management strategies.	
Intended learning outcomes: Student should be able to describe, <ul style="list-style-type: none"> the structure of tissues of musculoskeletal system and limbs. the function of tissues of musculoskeletal system and limbs. growth and development of tissues of musculoskeletal system and limbs. how structure is adapted to perform function and compensate functional demands. the basis of disorders, diagnostics and management strategies using above knowledge. 	
Time Allocation : Lectures 34h , Tutorials/ SGD 11h , Practical Work 60h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>General consideration - Introduction to limbs and limb girdles, Nerve supply of the body wall and limbs, Classification of joints and joint movements, Introduction to dissections</p> <p>Tissues of the musculoskeletal system - Structure of bone and cartilage, Collagen and ground substance, Structure of muscle, tendon, ligament, synovium, Contraction and relaxation of muscle, Form mechanics and coordinated activity of muscle, Muscle metabolism</p> <p>Effect of exercise on muscles - Biochemical effect of exercise on muscle, Changes in muscle mass to meet the functional demand</p> <p>Muscle disorders/dysfunctions - Physiological basis of muscle disorders/dysfunctions, Identification of muscle damage</p> <p>Growth and Development - Development of limb bud, Ossification , Introduction to bone growth and remodeling, Vitamins and minerals in relation to bone growth and remodeling, Markers of bone growth</p> <p>Structure and functions of the upper limb - Osteology and surface anatomy, Dissections (upper limb, regional anatomy), Joints and movements of the upper limb</p> <p>Structure and functions of the Lower limb - Osteology and surface anatomy, Dissections (lower limb, regional anatomy), Joints and movements of the lower limb, Gait and posture</p> <p>Radiology of the upper and lower limbs</p> <p>Clinical correlations - Venous drainage and lymphatic drainage, Arterial supply of limbs, Tissue injuries of limbs, Nerve injuries of limbs</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Last's Anatomy: Regional and Applied by C.S. Sinnatamby
2. Textbook of Medical Physiology by A.C. Guyton and J.E. Hall
3. Harper's Illustrate Biochemistry by R. Murray et al
4. Wheater's Functional Histology: A Text and Colour Atlas by B. Young et al
5. Grant's Dissector by P. W. Tank
6. Gray's Anatomy for Students by Richard Drake

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 1103
Course Title	: Communication and Learning (CLR – 1)
Credits	: 02
Prerequisite	: None
Core/ Optional : Core	
Aim/s: To enhance English language skills, Information technology skills and also to sensitize students to principles of effective communication enabling those be practiced during future course work.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • read and comprehend a passage with meaning, use the tenses appropriately. • use active voice and passive voice both in written & speech communication. • break complex sentences into simple sentences, use conditionals, modals & adverbials, form questions for answers. • make contextual reference, listen & take down notes. • transfer information both verbally & in written form. • navigate the different search engines available in the internet for literature search. • effectively navigate commands and menus of word-processing, spread sheets and presentations. • create different types of graphs using different types of data. • make power point presentations. • describe different learning approaches, their uses and drawbacks in relation to lifelong learning. • describe strategies used in effective time management. • describe relaxation techniques and ways of managing stressful situations. • describe and apply principles of good communication in interpersonal communications (Doctor Patient communication, workplace based communication), interactive learning sessions (transmitting messages in the workplace). • summarize key messages. 	
Time Allocation : Practical Work 60h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>This module consists of three major areas; Information technology, Learning techniques and English language.</p> <p>Information technology- Develop skills of searching for medical and health information on the web, Use word processing software and data entry software, prepare computer presentations, write formulae in spread sheets, create graphs in excel.</p> <p>Learning techniques- Active and passive learning, Learning approaches of students, Time management techniques, Principles of student assessment methods used in the MBBS course, Stress management and relaxation techniques, Verbal and non verbal behaviour in professional relationships, Good communication practices (verbal and written), Interpersonal communication, Identification of key messages and summarizing, Professionalism in workplace based communication.</p> <p>English language- Reading comprehension, Writing, and Transfer of verbal information.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Communication skills for Medicine - Margaret Lloyd Robert Bor - Churchill Livingstone (3rd ed)
2. Practical guide for medical teachers – John Dent and Ronald M. Harden – Churchill Livingstone (3rd ed)
3. The experience of Learning -F. Marton, D. Hounsell & N. Entwistle- Scottish Academic Press (2nd ed)
4. Teaching Listening Comprehension –Penny Ur–Eleventh Printing 1993
5. Grammar Practice Activities – A practical guide for teachers- Penny Ur – Eighth printing 1994.
6. A communicative Grammar of English – Geoffrey Leech/Jan Svartvik – 3rd Edition

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 1204
Course Title	: Respiration and Gas Exchange
Credits	: 4
Prerequisite	: Completion of Foundation (Med 1101)
Core/ Optional	: Core
Aim/s: To enable the student to understand the organization and embryological development of tissue of the respiratory system with reference to their functions and understand the basis for disorders, diagnostics and management strategies.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • describe the structure and function of the Respiratory system. • to perform clinical examinations of the Respiratory system. • explain the changes in the Respiratory system in special circumstances. 	
Time Allocation : Lectures 30h , Tutorials/SGD 17h , Practical Work 26h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> Regional and cross sectional anatomy of the thorax, Imaging of respiratory organs, Mechanics of breathing, Clinical examination of the respiratory system, Gas exchange and diffusion of gases, Transport of respiratory gases, Regulation of respiration, Role of respiration in acid-base balance, Respiration in special circumstances (Exercise /Altitude / Deep sea diving /Air and space travel), Basic life support	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Last's Anatomy : Regional and Applied - C.S. Sinnatamby
2. Gray's Anatomy for students
3. Wheater's Functional Histology: A Text and Colour Atlas - B. Young et al
4. Grant's Dissector - P.W. Tank
5. Textbook of Medical Physiology - Guyton and Hall
6. Review of Medical Physiology - William F. Ganong
7. Harper's Illustrate Biochemistry - R. Murray

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 1205
Course Title	: Blood and Circulation
Credits	: 6
Prerequisite	: Completion of Foundation (Med 1101)
Core/ Optional	: Core
Aim/s: To enable the student to understand the organization and embryological development of the tissues of the cardiovascular system with reference to their function and understand the basis for disorders, diagnostics and management strategies.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • describe the structure and function of the Cardiovascular system. • perform clinical examinations of the Cardiovascular system. • explain the basis for performing investigations in relation to the Cardiovascular system and interpret the findings. • apply the above knowledge to explain the basis for disorders, diagnostics and management strategies. 	
Time Allocation : Lectures 54h , Tutorials/SGD 16h , Practical Work 40h , SGL 04h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Overview of the cardiovascular system, Composition of blood, Haemostasis, Blood groups and transfusions, Surface marking, Mediastinum and heart, Heart as a pump, Electrocardiography, Cardiac output and venous return, Vascular tree, Flow dynamics, Role of the vascular endothelium in regulation of blood flow, Blood pressure and its regulation, Tissue fluids, Circulation through special regions, Examination of arterial and venous pulses, Measurement of blood pressure, Examination of the Cardiovascular System, Autonomic functions, Imaging of cardiovascular system</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Last's Anatomy : Regional and Applied by C.S. Sinnatamby
2. Gray's Anatomy for students
3. Wheater's Functional Histology: A Text and Colour Atlas by B. Young et al
4. Grant's Dissector by P.W. Tank
5. Textbook of Medical Physiology by A.C. Guyton and J.E. Hall
6. Review of Medical Physiology by William F. Ganong
7. Harper's Illustrate Biochemistry by R. Murray et al

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 1206
Course Title	: Alimentation
Credits	: 5
Prerequisite	: Completion of Foundation (Med 1101)
Core/ Optional : Core	
Aim/s: To provide a comprehensive understanding of the embryological development, microscopic structure, structural adaptation for function, physiological and biochemical functions and the basis for assessment of common dysfunctions of the digestive system.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • describe the role of the digestive system in the process of nutrient intake, absorption and digestion. • describe the anatomy, micro-anatomy, development and developmental disorders of the gastrointestinal system. • demonstrate the surface projections of abdominal structures and outline the procedure of clinical examination of the abdomen. • describe the fate of the food in the alimentary tract. • explain the physiological basis for the common dysfunctions of the alimentary tract. • explain the biochemical basis for the common gastrointestinal disorders. 	
Time Allocation : Lectures 37h , Tutorials/ SGD 17h , Practical Work 42h , SGL 22h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> Functional anatomy of the alimentary tract, General organization of the alimentary canal to perform its function, Surface projection of abdominal organs, Anterior abdominal wall, Body compartmentalization, Fate of food in the alimentary tract (Stomach/gastric secretion/ gastric emptying, Small intestine/secretory process of the duodenum, Liver, Gall bladder, Pancreas, Gastro intestinal hormones, Digestion, Absorption, Large intestine), Digestive disorder, Functional defects, Development of the alimentary tract, Imaging of Gastro intestinal tract and accessory organs	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Last's Anatomy: Regional and Applied by C.S. Sinnatamby
2. Textbook of Medical Physiology by A.C. Guyton and J.E. Hall
3. Harper's Illustrate Biochemistry by R. Murray et al
4. Wheater's Functional Histology: A Text and Colour Atlas by B. Young et al
5. Grant's Dissector by P. W. Tank

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 1207
Course Title	: English Language (CLR – 2)
Credits	: 2
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To enhance the English language competence of first year students in order to follow the MBBS course effectively.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • form relative clauses appropriately in complex sentences. • learn new vocabulary and use them in both written & speech communication. • construct scientific definitions and use language to discuss cause- effect relationship. • identify key information in paragraphs. • use comparative and superlative forms correctly. • write summaries/précis/formal letters/ academic essays and develop presentation and communication skills. 	
Time Allocation : Practical Work 60h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> Applied English language teaching – Reading and comprehension of academic texts using skimming/scanning methods, identifying topic sentences, main points and related ideas etc.	

Recommended Reading and/ or References and/ or Prescribed Texts

1. English Vocabulary in Use – advanced – Michael McCarthy/Felicity O’Dell – 2nd Edition
2. Advanced English Grammar – Martin Hewings. First reprint 2004.
3. A Course in basic Scientific English – JR Ewer & G. Latorre – New impression 1980.
4. Grammar Practice Activities – A practical guide for teachers- Penny Ur – Eighth printing 1994.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment	20%		
Assessments/ Labs	20%		
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	80%		

Course No : Med 2108
Course Title : Excretion & Reproduction
Credits : 6
Prerequisite : Completion of Foundation (Med 1101)

Core/ Optional : Core

Aim/s :

To enable the students to understand the organization and development of the genitourinary tract with reference to its function and understand the basis for disorders of the excretory and reproductive system and management strategies of these disorders.

Intended learning outcomes:

Student should be able to,

- describe the functional anatomy of the excretory and reproductive systems.
- describe the normal process of urine formation and the derangements that can take place in this system.
- describe the basic processes of reproductive functions in males and females and the physiology of fertilization, pregnancy, parturition and puerperium
- describe the anatomy of the pelvis and perineum.
- state the normal and abnormal constituents of urine.
- explain the basis for disorders, diagnostics and management strategies of the excretory and reproductive systems using the above knowledge.

Time Allocation : |Lectures|53h|, |Practicals/ Dissections|40h|, |Tutorials/ SGD| 17h| , |SGL| 2h|

Course Syllabus/ Course Description

Introduction to excretion- Posterior abdominal wall, Gross and microscopic anatomy of kidneys and the urinary tract, Osteology of the pelvis, Normal imaging anatomy of the urinary tract, Development of the kidneys and the urinary tract, Functions of the kidneys and formation of urine, GFR and factors affecting GFR, Renal clearance, Counter current mechanisms, Tubular functions, Renal handling of water, Role of the kidney in Acid-Base balance, Other functions of the kidneys, Micturition, Effects of abnormal renal function.

Introduction to human reproduction- Overview of reproductive hormones, Structure of male and female genital tracts and the breast, Spermatogenesis and male sex hormones, Ovarian cycle and female sex hormones, Puberty, Psychosocial aspects of human sexuality, Gender identity and psychological changes in adolescence, Normal imaging anatomy of the reproductive system, Imaging Anatomy of the common developmental anomalies of the genito-urinary system, Sexuality and sexual response, Fertilization, Tubal functions and implantation, Contraceptives, Regional anatomy of pelvis, reproductive organs, perineum etc, Development of the male and female reproductive system, Menopause and andropause, Pregnancy, Parturition, Puerperium and lactation, Psychological aspects, Changes of pregnancy and lactation, Physiology of the fetus.

Recommended Reading and/ or References and/ or Prescribed Texts

1. Last's Anatomy : Regional and Applied by C.S. Sinnatamby
2. Gray's Anatomy for Students
3. Textbook of Medical Physiology by A.C. Guyton and J.E. Hall
4. Review of Medical Physiology by William F. Ganong
5. Harper's Illustrate Biochemistry by R. Murray et al
6. Wheater's Functional Histology: A Text and Colour Atlas by B. Young et al
7. Grant's Dissector by P.W. Tank

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 2109
Course Title	: Nervous System
Credits	: 8
Prerequisite	: Completion of Foundation (Med 1101)
Core/ Optional	: Core
Aim/s: To enable the student to understand the structure and function of the human nervous system, basics of the clinical examination of the nervous system and key symptomatology related to nervous system.	
Intended learning outcome: Student should be able to, <ul style="list-style-type: none"> describe the structure and function of the nervous system in order to apply this core knowledge in clinical sciences. 	
Time Allocation : Lectures 69h , Tutorials/ SGD 21h , Practical Work 60h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> Overview of the nervous system, neurons, nerve tissue and functions, Neurotransmitters, Head and neck regional anatomy, How brain receives information, How brain responds, Autonomic nervous system, Lesions of the spinal cord and peripheral nerves, Mind and behaviour in relation to neuronal function, Physical examination of the nervous system, Investigation of neural functions, Appearance of the brain and spinal cord on imaging	

Recommended Reading and/ or References and/ or Prescribed Texts (Optional)

1. Clinical Neuroanatomy by Richard S. Snell
2. Last's Anatomy : Regional and Applied by C.S. Sinnatamby
3. Review of Medical Physiology by William F. Ganong
4. Harper's Illustrate Biochemistry by R. Murray et al

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 2110
Course Title	: Endocrine Function, Homeostasis and Metabolism
Credits	: 6
Prerequisite	: Completion of Foundation (Med 1101)
Core/ Optional	: Core
Aim/s: To provide comprehensive knowledge on, the structure, function, development of the endocrine system, endocrine control of body functions, gene expression, inborn errors of metabolism and molecular methods in disease diagnosis.	
Intended learning outcomes : The student should be able to describe the, <ul style="list-style-type: none"> mechanisms of thermoregulation. structure, function and development of endocrine organs. methods used in the measurement of endocrine function. molecular basis for disorders of lipid metabolism and obesity. process of gene expression and its derangements in cancer. causes for and outcome of inborn errors of metabolism. basis for molecular methods used in medicine and recombinant DNA technology. 	
Time Allocation : Lectures 61 h , Tutorials/ SGD 19 h , Practical Work 20 h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Homeostasis and thermoregulation, Structural and functional organization and development of the endocrine system, Pituitary and hypothalamic hormones, Thyroid and parathyroid hormones, Adrenal hormones, Endocrine pancreas and glucose homeostasis, Gonadal and other hormones, Measurement of endocrine function and thyroid function tests, Disorders of lipid metabolism and obesity, Gene expression and derangements in cancer, Inborn errors of metabolism, Molecular methods in medicine and recombinant DNA technology.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Harper's Illustrate Biochemistry by R. Murray et al
2. N.V. Baghavan's Medical Biochemistry
3. Ganong's Review of Medical Physiology (Lange Basic Science)
4. Textbook of Medical Physiology by A.C. Guyton and J.E. Hal
5. Wheater's Functional Histology: A Text and Colour Atlas by B. Young et al
6. Langman's Medical Embryology
7. Last's Anatomy
8. Gray's Anatomy for Students

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 2211
Course Title	: Growth, Development, Nutrition and Ageing (1)
Credits	: 4
Prerequisite	: Completion of Foundation (Med 1101)
Core/ Optional	: Core
Aim/s: To facilitate the understanding of the scientific and objective assessment of the normal and the deviations of growth, development, maturation and nutritional requirements of human beings.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> describe molecular basis for growth and development. describe normal growth and development in intrauterine life. describe the process of normal and abnormal growth and development during the neonatal period. describe normal and abnormal growth during childhood. complete/interpret growth charts. describe normal and abnormal development in children. describe normal as well as abnormal maturation during childhood and adolescence. describe nutritional requirements at different stages of life and assess nutritional status of children and adults. describe physiological, sexual and psychological changes that occur with ageing, the nutritional requirements and common health problems of the elderly. 	
Time Allocation: Lectures 49h , Tutorials/ SGD 7h , Practical Work 8h , SGL 5h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Introduction to growth and development, Cell Growth (DNA replication, Cell cycle, Protein synthesis) Prenatal growth - Clinical, Anthropological, and Laboratory (Imaging, biochemical and haematological) assessment of congenital abnormalities and IUGR, New born baby, New born baby with deviations and anomalies, Postnatal growth and development - skeletal growth, dentition, age estimation using teeth and bone, Normal growth and growth charts, Abnormal growth patterns, Abnormal development patterns, Normal and abnormal sexual development, Ageing - Structural and functional changes, Balanced diet, Nutrients and how they are used in the body, Energy and protein requirement, Psychosocial factors in food selection, Factors affecting food intake, Food intake during pregnancy and lactation, Diet and nutrient intake, Malnutrition</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Obstetrics by Ten Teachers (19th Edition)
2. Gynaecology by Ten Teachers (19th Edition)
3. Food & Diet – Prof. T.W. Wickramanayake
4. Illustrated Paediatrics Tom Lissauer and Graham Clayden
5. Nelsons text book of Paediatrics

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 2212
Course Title	: Infection (1)
Credits	: 04
Prerequisite	: None
Core/ Optional	: Core
Aim/s : To provide knowledge on systematic medical microbiology including the spread of micro-organisms, disease causation (pathogenesis), diagnosis, treatment and prevention of the spread of pathogens of major significance to public health and to enable understanding of basic concepts in diagnosis of viral, bacterial and parasitic infections through practicals, demonstrations, small group discussions and use of microscopes.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • outline briefly general properties, classification and reproduction of viruses, bacteria, fungi and parasites of medical importance in order to understand pathogenesis of infections/diseases. • identify ways by which viruses, bacteria, fungi and parasites of medical importance are visualized and perform light microscopy to visualize bacteria and parasites. • explain mechanisms by which viruses, bacteria, fungi and parasites cause disease in humans. • describe the major clinical features of infections/diseases caused by viruses, bacteria, fungi and parasites in humans. • describe the principles of diagnosis, treatment and prevention of infections/diseases caused by viruses, bacteria, fungi and parasites. 	
Time Allocation : Lectures 43h , Tutorials/ SGD 10h , Practical work 14h , SGL 08h	
Course syllabus/ Course Description Overview of micro-organisms and parasites in relation to human health, Proving causation of infection, Koch's postulates and its limitations, Microbial classification and visualization, Microbial growth, dissemination and survival within and outside the human host, Parasites and people - Host parasite relationships, Processes by which organisms cause disease to host tissue, Methods of preventing infections to include sterilization and disinfection. Introducing medically important viruses, Viruses causing Hepatitis, Pox, adeno, parvo, papova viruses, Herpes viruses, Respiratory viruses, Enteroviruses and Viruses causing gastroenteritis, Arbo viruses, Retro viruses, oncogenic viruses, prions, Viruses of zoonotic importance to include rabies, Diagnosis and prevention of viral infections. Introducing medically important bacteria and fungi, Gram positive cocci to include staphylococci, Streptococci and enterococci, Gram negative cocci to include <i>Neisseria</i> and <i>Branhemella</i> , Gram positive bacilli to include corynebacterium, bacillus, norcardia and listeria, Mycobacteria, Anaerobes including clostridia, actinomycetes and prevotella, Gram negative bacilli to include enterobacteriaceae, pseudomonads and other NLF of clinical importance, Gram negative coccobacilli to include haemophilus, bordetella, legionella and pasteurilla, Vibrio, campylobacter and helicobacter, Spirochaetes, Chlamydia, rickettsioses and mycoplasma, Superficial, sub cutaneous and deep mycoses. Introducing medically important parasites, Malaria, Intestinal Protozoa - amoeboe & ciliates, Intestinal and urogenital protozoa - <i>Giardia</i> , <i>Trichomonas</i> & <i>Cryptosporidium</i> , Haemoflagellates, Tissue Coccidia, Helminths- Intestinal Nematodes, Cestodes and Trematodes, Arthropods of medical importance, Animal bites and stings, poisonous snakes and envenomation.	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Jawetz, Melnick and Adelberg's Medical Microbiology – 3rd Ed 2004 or more advanced Ed, Mc Graw Hill Press.
2. Mims C, Dockrell, Goering, RV, Roitt I, Wakelin D and Zukerman, M. Medical Microbiology – Updated 3rd Ed 2005 or more advanced Ed, Elsevier Mosby Publishers.
3. White DO and Fenner F. Medical Virology – 5th Ed 2010 or more advanced Ed, Academic Press, San Diego, USA.
4. Manson's Tropical Diseases - 22nd edition.
5. Worms and Human Disease - Ralph Muller and Derek Wakelin.
6. Peters W, Gilles HM. Colour Atlas of Tropical Medicine and Parasitology. 4th Edition. London: Mosby-Wolfe; 1995 or more advanced Ed.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment	20%		
Assessments/ Labs	20%		
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	80%		

Course No	: Med 2213
Course Title	: Integrated Human Biology
Credits	: 5
Prerequisite	: Completion of all modules of Y1S1 to Y2S1
Core/ Optional	: Core
Aim/s : To facilitate transition from class room based learning to hospital based training by reinforcing relevance of basic sciences to clinical practice, facilitating recall of clinically relevant basic science concepts, encouraging students to engage in active learning and facilitating critical thinking.	
Intended learning outcomes: In relation to common symptoms and signs, student should be able to: <ul style="list-style-type: none"> describe how lay people usually express their illness using different dialects. describe relevant anatomical structures and explain physiological/ biochemical mechanisms involved. explain possible mechanisms of causation. list common disease conditions. In relation to disease conditions that will be listed above, student should be able to; <ul style="list-style-type: none"> list other clinical features(symptoms, signs) and investigation findings; explain Anatomical/Biochemical/Physiological basis of those clinical features and investigation findings. describe principles underlying the methods of relieving symptoms. In relation to, venepuncture at cubital fossa, accessing Femoral vein for catheterization, Insertion of intercostals tubes, Supra pubic puncture for acute urinary retention; student should be able to; <ul style="list-style-type: none"> describe the procedure using their knowledge of human anatomy. 	
Time Allocation : Lectures 45h , Tutorials/ SGD 10h , Practical Work 40h	
Course Syllabus/ Course Description Shortness of breath, Body swelling, Unconsciousness, Jaundice, Diarrhoea, Weakness of a limb, Sub fertility, Lumps, Fever, Pain (chest pain, abdominal pain, joint pain, headache, pelvic pain), Convulsions, Anaemia, Shock, Oliguria, Polyuria, Trauma and injuries, Unusual bleeding, Human anatomy in relation to common surgical procedures/instrumentation – eg. venepuncture at cubital fossa, accessing Femoral vein for catheterization, Insertion of inter-costal tubes, Supra pubic puncture for acute urinary retention.	

Recommended Reading and/ or References and/ or Prescribed Texts

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| 1. Hutchison's Clinical Methods, 22 nd Edition | 12. Textbook of Medical Physiology by A.C. Guyton and J.E. Hall |
| 2. Kumar & Cleark's Clinical medicine, 7 th edition | 13. Human Embryology by Prof. Malkanthi S. Chandrasekera |
| 3. Davidson's principles and Practice of Medicine, 21 st Edition | 14. Gray's Anatomy for students |
| 4. Oxford Text Book of Medicine, 4 th Edition | 15. Last's Anatomy : Regional and Applied - C.S. Sinnatamby |
| 5. Harrison's Principles of Internal Medicine, 17 th Edition | 16. Wheater's Functional Histology: A Text and Colour Atlas - B. Young et al |
| 6. Illustrated Text Book of Paediatrics, Elsevir, 3 rd Edition | 17. Grant's Dissector - P.W. Tank |
| 7. Gynaecology by Ten Teachers, 7 th Edition | 18. Review of Medical Physiology - William F. Ganong |
| 8. Baily and Love's Short practice of Surgery, 25 th edition | 19. N.V. Baghavan's Medical Biochemistry |
| 9. Lippincott's Illustrated Reviews: Biochemistry by R.A. Harvey & D.R. Ferrier | 20. Ganong's Review of Medical Physiology, (LANGE Basic Science) |
| 10. Harper's Illustrate Biochemistry by R. Murray et al | 21. Langman's Medical Embryology |
| 11. Biochemistry by J.M. Berg, J. L. Tymoczko and L. Stryer. | 22. Clinical Neuroanatomy by Richard S. Snell |

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 2214
Course Title	: Medical Statistics (CLR – 3)
Credits	: 2
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To develop basic knowledge and skills of medical statistics among medical students.	
Intended learning outcomes : Student should be able to define and describe, <ul style="list-style-type: none"> scales of measurements, variables, classification of variables and measures of central tendency. the laws of probability. statistical distributions and the application of normal distribution. population, sample, sampling variation, standard error of the mean, sampling distribution of mean. and the sampling distribution of difference. hypothesis testing and P value of a significant test. parametric and non parametric tests. different probability sampling and non probability sampling methods, concepts in selecting the appropriate sampling methods, regression, correlation and use of these concepts in calculations. 	
Time Allocation : Lectures 30h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Scales of measurements, Variables, Classification of variables, Measure of central tendency, Laws of probability, Statistical distributions, Application of normal distribution, Population, Sample, Sampling variation, Standard error of the mean, Sampling distribution of mean and the sampling distribution of difference, Hypothesis testing and P value of a significant test, Parametric and non parametric tests, Probability sampling and non probability sampling methods, Concepts in selecting the appropriate sampling methods, Regression, Correlation and use of these concepts in calculations.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

- Swinscow T D V, Campbell M J. (2002) Statistics at square one. 10th edition. BMJ Books.
- Douglas G. Altman (1991). Practical Statistics for Medical Research, Chapman & Hall

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 2215
Course Title	: Research methods (CLR – 4)
Credits	: 2
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To produce a medical doctor who is knowledgeable to conduct scientific research and take decisions based on scientific evidence.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • identify the research problem. • conduct a scientific literature review • write research objectives. • describe the different statistical methods used in clinical and epidemiological studies. • calculate sample size • identify possible errors in research including confounding effects. • state the methods used to control errors and confounding effects. • assess the validity and reliability of results and study instruments, • judge the cause-effect relationship and learn evidence based decision making. • write end-text references and in-text citations in the prescribed format. 	
Time Allocation : Lectures/ SGD 30h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Basics of research methodology necessary for medical students (including the scope of medical research), Steps in the development of a research protocol, Conducting and writing a literature review, Writing references and in-text citations, Formulating research objectives, Frequency measuring techniques used in health and medicine, Different types of research methods used in health and medical sciences, (descriptive studies, observational analytical studies, and different types of experimental study designs), Methods used to minimize errors in health / medical research, Methods used to ensure validity and reliability of results of research and research instruments, Causation theories used in medical research, Data collection techniques.</p>	

Recommended Reading And/ or References and/ or Prescribed Texts

1. R Bonita, R Beaglehole, T Kjellström (2006). Basic Epidemiology. 2nd edition, World Health Organization.
2. Hulley, S. B. (2007). Designing clinical research. Philadelphia, PA, Lippincott Williams & Wilkins.
3. Rothman, K. J., S. Greenland, et al. (2008). Modern epidemiology. Philadelphia, Wolters Kluwer Health/Lippincott Williams & Wilkins.
4. Schlesselman, J. J. and P. D. Stolley (1982). Case-control studies : design, conduct, analysis. New York, Oxford University Press.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination	100%		

Course No	: Med 2216
Course Title	: Doctor In Society (DIS) - 1 (Introduction to basic ethical and legal aspects of medical practice)
Credits	: 1
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To introduce students to ethical and legal aspects of medical practice.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • construct a definition for death appreciating the different types of death and conditions simulating death. • interpret changes which occur and are introduced after death while appreciating the medico legal importance of death and its changes. • describe the procedure to be followed in the disposal of a dead body, legally, in cases of deaths under different circumstances. • evaluate the role of the medical officer in solving crimes. • formulate a code of conduct for doctors in medical practice considering the different professional relationships. 	
Time allocation	: Lectures/ Discussions 15h
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Introduction to Forensic Medicine- branches, scope and the need, Investigation of crimes, Roles and responsibilities of a doctor in maintaining relationships, Code of conduct for doctors, Medical Ethics - Introduction to basic principles and ethical concepts, Death and death related issues, Disposal of a dead body and inquest, Changes after death and estimation of time since death, Post mortem artifacts, Legal system of Sri Lanka with special reference to practice of medicine</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Alwis LBL. Medical law, ethics, duties and forensic psychiatry. First edition, 2007
2. Shepherd R. Simpson's Forensic Medicine. 12th ed. Oxford University Press, London 2003

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 2217
Course Title	: Doctor In Society (DIS) - 2
Credits	: 2
Prerequisite	: None
Core/ Optional	: Core
Aim/s : To provide knowledge on health problems related to the environment, prevention of such problems, concepts of demography, primary health care and accident prevention.	
Intended learning outcomes: The student should be able to, <ul style="list-style-type: none"> • describe how to control and prevent health problems related to the environment. • describe how demographic patterns affect health, calculate and interpret demographic indicators. • explain concepts of primary health care and medical sociology. • describe principles of injury prevention. 	
Time Allocation	: Lectures 30h
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Health problems caused by water pollution, air pollution, improper waste and sewage disposal, noise pollution, poor housing, food sanitation and their control and prevention, Demographic transition and population structure, Fertility, mortality and migration patterns, Calculation and interpretation of demographic indicators, Concepts of life tables, Indirect and direct standardization. Concepts of primary health care and its applications, Application of concepts of medical sociology, Injury surveillance and prevention, Oral health, Emerging health problems.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Park's Textbook of Preventive and Social Medicine by K. Park
2. Annual Health Bulletin, Ministry of Health, Sri Lanka
3. Demography of Sri Lanka, Issues and Challenges by Department of Demography, University of Colombo, Sri Lanka

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3118
Course Title	: Foundation in Pathology and Foundation in clinical Pathology
Credits	: 6
Prerequisite	: Knowledge of normal Anatomy, Histology, Physiology and Biochemistry
Core/optional	: Core
Aim/s : To enable the student to work out the general pathological processes of diseases encountered in medical practice, to apply this knowledge to diseases in relation to the systems of the body, to interpret common pathological laboratory reports encountered in clinical practice and to correlate the results with the pathological processes learnt.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • explain the pathogenesis, clinic-pathological features, sequelae and complications of the general pathological processes, encountered in medical practice. • describe the morphology of general pathological processes. • describe the general pathological processes in diseases commonly seen in medical practice. • describe the pathological investigations carried out in diseases and interpret pathological laboratory reports. 	
Time Allocation : Lectures 77h , Practical work /Museum classes 26 h	
<p style="text-align: center;">Course syllabus /Course Description</p> Introduction to Pathology, Acute inflammation, Suppuration, Chronic inflammation, Cell response to injury, Wound healing, Specialized tissue and wound healing, Necrosis/apoptosis, Tuberculosis, Leprosy, Hyperplasia/hypertrophy, Atrophy, Metaplasia, Dysplasia, Thrombosis, Embolism, Infarction, Congestion and oedema, Amyloidosis, Atherosclerosis, Pathological accumulation and calcification, Introduction to clinical pathology, Introduction to Haematology, Neoplasia, Spread of tumours, Haematology, Clinical Haematology, Applied general pathology in Cardiovascular system, Applied general pathology in Respiration, Applied general pathology in gastro intestinal tract, Applied general pathology in liver, Applied general pathology in kidney, Applied general pathology of brain, Identifying specimen collection errors, Clinical pathology, Interpreting biochemical and haematological investigations, Oncogenesis, Neoplasia early diagnosis and screening, Specimen collection in Histology, Cytology and frozen section, Clinical biochemistry, Cerebrospinal Fluid examination, Interpreting urine reports.	

Recommended Reading and /or References and/ or Prescribed Texts

1. Robbins and Cotran Pathologic basis of disease – 8th edition.
Vinay Kumar, Abdul Abbas, Nelson Fausto and Jhon Aster.
2. Concise pathology – 3rd edition. Parakrama Chandrasoma, Clive Taylor.
3. Text book of Pathology – 5th edition. Harsh Mohan
4. Muir's text book of Pathology – 14th edition.
Edited by David Levison, Robin Reid, Alistair Burt, David Harrison and Stewart Fleming
5. Walter and Israel General Pathology – 7th edition.
I. C. Talbot and J. B. Walter.
6. General and systemic pathology-J. Underwood and S. Cross

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3119
Course Title	: Foundation in Pharmacology
Credits	: 3
Prerequisite	:
Core/ Optional	: Core
Aim/s: To enable the student to understand the basic principles related to drug therapy.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • describe the basic concepts in pharmacodynamics with their clinical significance. • describe the basic concepts in pharmacokinetics with their clinical significance. • explain how the autonomic function could be modified by drugs. • explain the basis of drug therapy in pain control. • explain the basis of drug therapy in neoplastic disease. • explain the basis of drug therapy in infections. 	
Time Allocation : Lectures 39h , Tutorials/ SGD 6h , SGL 5 h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> Pharmacodynamics Pharmacokinetics Drugs acting on the Autonomic nervous system Principles of drug therapy in pain control Principles of drug therapy in Neoplasia Principles of anti-microbial drug therapy	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Bennett P.N., Brown M.J., Sharma P. 2012. *Clinical pharmacology*. 11th ed. Edinburgh: Churchill Livingstone.
2. Rang H. P., Dale M. M., Ritter, Flower, Henderson G., Ritter J.M., Flower R.J. 2012 Rang & Dale's pharmacology. 7th ed. Edinburgh: Churchill Livingstone.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3120
Course Title	: Systematic Pathology (I)
Credits	: 4
Prerequisite	: Knowledge on general pathology
Core/ Optional	: Core
Aim/s: To enable the student to work out the pathological basis of common diseases encountered in medical practice in relation to respiratory, cardiovascular, musculoskeletal, lympho-reticular and endocrine systems and to identify the relevant laboratory investigations when faced with clinical problems in relation to the above systems.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • describe the pathological changes that occur in diseases commonly seen in clinical practice. • describe the symptoms and signs brought about by these pathological changes. • determine the relevant laboratory and other investigations in relation to the above diseases and explain the rationale on a pathological basis for the selection of these investigations. 	
Time Allocation: Lecture 49h , Tutorials/ SGD 5 h , Practical work 12 h	
<p style="text-align: center;">Course syllabus /Course Description</p> Pathology of pneumonia, lung abscess, bronchiectasis, interstitial and industrial lung disease, neoplasms of lung, hypertension, vascular diseases, ischaemic heart disease, endo, myo and pericardial diseases, congenital, metabolic, and infective diseases, disease of bone, neuromuscular diseases, pituitary, adrenal and thyroid diseases, diabetes, metabolic syndrome and obesity, pathology of lymph node and spleen and assessment of endocrine dysfunction.	

Recommended Reading and /or References and/ or Prescribed Texts

1. Robbins and Cotran - Pathologic basis of disease.
2. Concise pathology by Parakrama Chandrasoma.
3. Harsh Mohan's Text book of Pathology.
4. Muir's text book of Pathology.
5. Walter and Israel General Pathology.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3121
Course Title	: Systematic Pharmacology (I)
Credits	: 2
Prerequisite	: Foundation in Pharmacology (Med 3119)
Core/ Optional	: Core
Aim/s :	To enable the student to understand the basic pharmacology of drugs used in cardiovascular, respiratory, bone/joint, fluid/electrolyte, endocrine and immune disorders.
Intended learning outcomes:	Student should be able to describe the, <ul style="list-style-type: none"> mechanism of action, pharmacokinetics, clinical uses, adverse effects and interactions of drugs used in cardiovascular diseases, respiratory diseases, metabolic disease, bone and joint diseases, fluid and electrolyte disorders, endocrine disease and the modulation of immunity.
Time Allocation :	[Lectures] 20h, [Tutorials/ SGD] 10h, [SGL] 4h
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Drugs affecting cardiac contractility and vascular tone, Drugs in hypertension, coronary artery disease, heart failure, dyslipidemia, cardiac arrhythmias and thrombotic disorders, Drugs in asthma, COPD, Pulmonary tuberculosis, Drugs in metabolic bone diseases and joint diseases, Drugs in fluid volume regulation, thyroid disorders, diabetes, adreno-cortical disorders, and immune-modulation.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Bennett P.N., Brown M.J., Sharma P. 2012. *Clinical pharmacology*. 11th ed. Edinburgh: Churchill Livingstone.
2. Rang H. P., Dale M. M., Ritter, Flower, Henderson G., Ritter J.M., Flower R.J. 2012 Rang & Dale's pharmacology. 7th ed. Edinburgh: Churchill Livingstone.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3122
Course Title	: Defenses of the body
Credits	: 01
Prerequisite	: None
Core/ Optional : Core	
Aim/s : To provide a broad understanding of fundamental immunology, including developmental pathways of cells involved in the defense against various insults, innate and adaptive immune responses at a cellular and molecular level and immune response in health and disease to include vaccine prevention, autoimmune disorders and tolerance and immunodeficiency.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • describe the anatomy and organization of cells and organs associated with the defenses of the body. • explain the functional significance of the anatomical arrangement of the cells and organs associated with the defense of the body, general features of a naive immune cell vs an effector cell • define lipid and protein mediators of inflammation, cytokines and chemokines. • describe the process of recruitment of immune cells to the site of infection to include the main features of inflammation and explain its role in the defense of the body. • explain the basis of hypersensitivity reactions to describe the 4 types of hypersensitivity. • explain the basis of auto immunity with examples on how autoimmunity contributes to the disease process, different methods available to treat autoimmunity and the immunological basis for transplant rejection. • state reasons for failure of the defenses of the body (natural and acquired); Classify the immunodeficiency disorders and outline the effects of failure of the defenses of the body. 	
Time Allocation : Lectures 13h , Tutorials/ SGD 02h	
<p style="text-align: center;">Course syllabus / Course Description</p> Introduction to the defense system; Innate immunity, Complements and the inflammatory response, Cells and organs of the immune system, Antigen and the immune response, Acquired immune system and cellular immunity, Humoral immunity, Developmental pathway of cells of the immune system, Dysfunction of immune system to include hypersensitivity, autoimmunity and transplant rejection and immuno-deficiencies.	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Basic Immunology by Abul K. Abbas and Andrew H. Lichtman, Saunders. 4th Ed 2000 or more advanced Ed.
2. Kuby Immunology by Richard A. Goldsby, Thomas J. Kindt and Barbara A. Osborne. 4th Ed 2000 or more advanced Ed.
3. Janeway's Immunobiology by Kenneth M. Murphy, Paul Travers, Mark Walport. 4th Ed 2012.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3123
Course Title	: Doctor In Society (DIS) - 3 (Traumatology 1: Medico legal procedures and ethical medical practice)
Credits	: 3
Prerequisite	: None
Core/ Optional	: Core course
Aim/s: To identify and document the effects of trauma for legal purposes while appreciating the broader role of the medical officer at a scene of crime and to apply the theory of ethical medical practice.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • apply principles of physiology and pathology to determine the response of the body to trauma. • interpret injuries and their consequences which occur as a result of trauma for medico legal purposes. • justify the importance of maintaining and presenting accurate, legible and complete medico legal records and providing oral evidence to court . • describe the role of the medical officer in conducting scene visits/exhumations, issuing certificates. • apply the principles of ethics, rights and law to solve problems that arise during medical practice and research appreciating the standards set by the Sri Lanka Medical Council. • interpret findings which help in the identification of individuals. 	
Time Allocation : Lectures/ Discussions 45h	
Course syllabus / Course Description Pathology and patho-physiology of trauma, Basic injuries, Injuries by physical and chemical agents Time of injury, Patterns of injuries, Classification of injuries for legal purposes , Regional injuries (Thoracic, Abdominal, Head, Neck , Face, teeth and spinal cord), Identification for medico legal purposes, History taking and examination of medico-legal cases, Introduction to autopsy and techniques, Negative autopsy, Introduction to cause of death, mode of death and circumstances of death, Law of murder and homicide, Exhumation and excavation, Court procedure and expert testimony in courts, Testimonial capacity, testamentary capacity, fitness to plead and dying declaration, Scene of crime, The role of a medico legal officer at a scene of mass disaster, Trace evidence, Health care rights, Research ethics, Medical malpractice and illegal medical practice, Sri Lanka Medical Council , Debates on controversial issues.	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Shepherd R. Simpson's Forensic Medicine. 12th ed. Oxford University Press, London 2003
2. Knight B, Saukko P. Knight's Forensic Pathology 3rd ed. Oxford University Press. London 2004
3. De Maio DJ, De Maio VJ. Forensic Pathology. 2nd ed. CRC press. London 2001
4. Gordon I, Shapiro HA, Berson SD. Forensic Medicine. A guide to principles 3rd ed. Churchill Livingstone
5. Fisher RS, Petty CS. Forensic Pathology. A handbook for pathologists. Castle house publications. London 1980
6. Mason JK. The pathology of trauma. Edward Arnold. Edinburgh. 1992
7. Mason JK, Purdue BN. The pathology of trauma 3rd Ed. Oxford University Press. London. 1999
8. Fisher RS, Spitz WU. Medicolegal investigation of death. 3rd ed. Charles C Thomas USA. 1993
9. Mant AK. Taylor's principles and practice of Medical jurisprudence 13th ed. ChurchillLivingstone. New Delhi 1984
10. Alwis LBL. Medical law, ethics, duties and forensic psychiatry. First edition, 2007

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3224
Course Title	: Systematic Pathology (II)
Credits	: 4
Prerequisite	: Basic knowledge on general pathology
Core/ Optional	: Core
Aim/s: To enable the student to describe the pathological basis of disease processes in relation to nervous, alimentary, excretion and reproduction systems. To enable the student to select laboratory investigations relevant to the disease processes of these systems.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • explain the pathological basis of disease processes. • explain the clinical features and complications in a pathological background. • select and explain the basis for selection of laboratory and other investigations relevant to the above mentioned diseases 	
Time Allocation : Lecture 46h , Tutorials/ SGD 14 h , SGL 12 h	
<p style="text-align: center;">Course syllabus /Course Description</p> <p>Infection, inflammation and tumours of central nervous system, Peripheral nervous system, Raised intracranial pressure, Cerebrovascular lesions of brain, Dementia, Diseases of oesophagus stomach, small intestine and appendix, gut infections, inflammatory bowel disease, colonic tumours, anal and perianal disease, liver pathology, diseases of biliary tract and pancreas, Glomerular diseases, interstitial diseases, diabetic and hypertensive nephropathy, infections of the urinary tract, urolithiasis, tumours of urinary tract and gonads, diseases of female genital tract, male genital tract and prostate, breast, Common skin diseases.</p>	

Recommended Reading and /or References and/ or Prescribed Texts

1. Robbins and Cotran - Pathologic basis of disease.
2. Concise pathology by Parakrama Chandrasoma.
3. Harsh Mohan's Text book of Pathology.
4. Muir's text book of Pathology.
5. General and systematic pathology – Underwood

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3225
Course Title	: Systematic Pharmacology (II)
Credits	: 2
Prerequisite	: None
Core/ Optional	: Core
Aim/s :	To enable the student to understand the basic pharmacology of drugs used in disorders of the nervous, gastrointestinal and genitourinary systems.
Intended learning outcomes:	Student should be able to describe the, <ul style="list-style-type: none"> • mechanism of action, pharmacokinetics, clinical uses, adverse effects and interactions of drugs used in diseases of the nervous system, gastrointestinal system and the genitourinary system
Time Allocation :	Lectures 23h , Tutorials/ SGD 07h
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Drugs in epilepsy, movement disorders, anaesthesia, migraine, sleep disorders, depression, psychosis, dementia and neuromuscular junction disorders, Drugs in vomiting, constipation, diarrhoea, peptic ulcer disease, inflammatory bowel disease and Drugs acting on the genitourinary system.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Bennett P.N., Brown M.J., Sharma P. 2012. *Clinical pharmacology*. 11th ed. Edinburgh: Churchill Livingstone.
2. Rang H. P., Dale M. M., Ritter, Flower, Henderson G., Ritter J.M., Flower R.J. 2012 Rang & Dale's pharmacology. 7th ed. Edinburgh: Churchill Livingstone.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3226
Course Title	: Infection (2)
Credits	: 02
Prerequisite	: Infection 1 (Med 2212)
Core/ Optional	: Core
Aim/s : To provide knowledge on infectious diseases affecting various systems of the body including the spread, pathogenesis, diagnosis and prevention/or treatment of infectious diseases of major significance to public health in Sri Lanka and in the world.	
Intended learning outcomes : Student should be able to, <ul style="list-style-type: none"> • explain the pathogenesis of infections (viral, bacterial, fungal and parasitic) affecting different organ systems / body sites, in humans. • describe risk / predisposing factors for infections, affecting different organ systems. • explain the underlying principle for microbiological and parasitological diagnosis of infections/diseases affecting different organ systems / body sites. • describe the methods of collection and transport of appropriate specimens for aetiological diagnosis of infections/diseases affecting different organ systems / body sites. • outline principles of treatment and prevention of infections/diseases affecting different organ systems / body sites. 	
Time Allocation: Lectures 17h , SGD/ Seminar 13h	
<p style="text-align: center;">Course syllabus/ Course Description</p> <p>Pathogenesis of infections in different organ systems/body sites and principles of diagnosis, treatment and prevention as applied to; Urinary tract infections, Skin and wound infections (including scabies and leishmaniasis), Muscular skeletal infections, Respiratory tract infections, Cardio vascular infections, Gastro intestinal tract infections (including infective diarrhoeas - parasitic, viral and bacterial and food poisoning), Central nervous system infections, Infections in pregnancy, foetus and neonate, Sepsis (including typhoid and post-operative sepsis), Role of the laboratory in diagnosis of infective diseases, Collection and transport of specimen for common microbiological and parasitological investigations, Molecular diagnosis of infective disease (viral, bacterial, fungal and parasitic), Infections of the compromised host including AIDS, Emerging and re-emerging infections in the immune-competent and immuno-compromised patients, Malaria, Zoonotic diseases in Sri Lanka, Brancroftian filariasis.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Mims C, Dockrell, Goering, RV, Roitt I, Wakelin D and Zukerman, M. Medical Microbiology – Updated 3rd Ed 2005 or more advanced Ed, Elsevier Mosby Publishers.
2. Chapter on Infectious Diseases in Kumar and Clark's Clinical Medicine. Parveen Kumar, Michael L Clark, Elsevier Health Sciences, 7th Ed 2009 or 8th Ed 2012.
3. Clinical Microbiology Made Ridiculously Simple. Mark Gladwin and Bill Trattler, 3rd Ed 2004.
4. Manson's Tropical Diseases - 22nd edition.
5. Worms and Human Disease - Ralph Muller and Derek Wakelin.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3227
Course Title	: Growth, Development, Nutrition and Ageing (2)
Credits	: 01
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To improve knowledge and skills in evaluation of growth, development, maturation and problems related to nutrition with regards to their causes; To prepare students to evaluate clinical scenarios with regard to causes of problems in preparation for clinical practice.	
Intended learning outcomes: Student should be able to describe , <ul style="list-style-type: none"> • deviations and abnormal patterns of growth, development and maturation in intrauterine and neonatal periods, childhood and adolescence. • intrinsic and extrinsic factors affecting growth, development and maturation during the intrauterine period, neonatal period, childhood and adolescence. • national programmes, evaluation and interventions for nutritional problems at community level. • cause and impact of nutritional deficiencies on children. • management of the elderly, in the Sri Lankan context. 	
Time Allocation : Lecture 14 h Seminar 1 h , SGL 3h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Introduction to growth and development - recall what was learnt in year 2, Factors affecting pre-natal growth-common clinical problems and its general management, Factors affecting growth and development in childhood (chromosomal, genetic, nutritional and emotional factors), Common problems related to sexual maturity and their causes, Basis of nutritional disorders, National nutritional status, Impact of the economy and the population structure of a country on nutritional status ,National programmes for intervention of nutritional problems in Sri Lanka, Problems related to feeding children, Evaluation of growth and development in childhood- identifying causes of common problems (causes for growth failure , excess growth and developmental delay in childhood) through selected clinical case scenarios.</p> <p>Elderly care -general management of elderly populations and community programmes for the elderly, General management of menopause and andropause, Current and envisaged problems in management of the elderly in Sri Lanka</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Illustrated Paediatrics Tom Lissauer and Graham Clayden
2. Nelsons text book of Paediatrics

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 3228
Course Title	: Doctor In Society (DIS) - 4
Credits	: 3
Prerequisite	: None
Core/ Optional	: Core
Aim/s : To provide knowledge on maternal and child health, occupational health, epidemiology of communicable and non-communicable diseases and disaster management.	
Intended learning outcomes; The student should be able to describe, <ul style="list-style-type: none"> • how maternal and child health is safeguarded at community level. • the importance of occupational health services. • the epidemiology of non-communicable diseases and their prevention. • how a disaster is managed. • the control and prevention of major communicable diseases in Sri Lanka. 	
Time Allocation : Lecture 35 h , Tutorials/ SGD 10 h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Introduction to Medical Officer of Health area, Antenatal, natal and postnatal care, Maternal morbidity and mortality, Infant morbidity and mortality, Breast feeding, Family planning, Adolescent health, Early childhood care and development, Sexual and reproductive health in crises, Occupational health hazards, Role of the physician in occupational health services, Factory inspection, Occupational epidemiology; Functions of the occupational hygiene division, Epidemiology of non-communicable diseases, Management of disasters, Epidemiology and preventive strategies for tuberculosis, filariasis, sexually transmitted diseases/Human Immunodeficiency Virus infection, leprosy and rabies.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Oxford Textbook of Public Health, Edited by Roger Detels, James McEwen, Robert Beaglehole and Heizo Tanaka
2. Annual Report on Family Health, Sri Lanka by Family Health Bureau, Ministry of Health, Sri Lanka.
3. Occupational Health: a handbook for Doctors by University of Colombo, Sri Lanka
4. Health and Safety Executive, UK website
5. Maternal Care Package, A guide to Field Health Care Workers by Family Health Bureau, Ministry of Health, Sri Lanka.
6. Park's Textbook of Preventive and Social Medicine by K. Park

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 4129
Course Title	: Medical Imaging
Credits	: 02
Prerequisite	: Knowledge on gross anatomy, radiological anatomy, general and systematic pathology
Core/ Optional	: Core
Aim/s: To enable the students to understand the application of radiology in the diagnosis and treatment of common disease conditions, knowing their limitations and radiation hazards.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> list the imaging modalities used for various common pathological conditions of all body systems. select the appropriate radiological investigation for common diseases. describe the radiological signs of common pathologies seen on above imaging modalities, which are being utilized for the diagnosis of common diseases. describe the radiation protection measures taken during radiological investigations. 	
Time Allocation: Lectures 30h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Imaging of pulmonary nodules and cavities, pulmonary and extra pulmonary tuberculosis, congenital and acquired heart diseases, Application of computed tomography in chest pathology, Imaging in acute abdomen, inflammatory and neoplastic bowel diseases, hepato-biliary diseases, pancreatic pathology, obstructive uropathy, congenital anomalies of urinary tract, inflammatory and neoplastic diseases of urinary tract, Imaging in disease of central nervous system (including neoplastic and inflammatory diseases, stroke and intra cranial hemorrhage), Application of imaging in diseases of bone (including inflammatory, neoplastic diseases, arthropathies and endocrine / metabolic disorders), Basic concepts of trauma imaging, Imaging in Obstetrics and Gynaecology, breast and thyroid diseases, Imaging in paediatrics (including neonatology), Scrotal and prostatic pathology, Basic concepts of radiological interventions and radiation protection, Imaging in peripheral vascular diseases (arterial & venous), Principles of nuclear imaging and radiation protection issues, Nuclear imaging of myocardial perfusion, pulmonary embolism, gastro intestinal bleeding, hepatobiliary disorders and urinary tract pathology, Tumour imaging in nuclear medicine, Nuclear imaging in infections and inflammation, Application of nuclear imaging in endocrinopathies</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Lecture notes on Radiology by Patel
2. Radiology for medical students by David Sutton
3. Interpretation of chest radiographs for medical students by P B Hewavithana

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 4130
Course Title	: Doctor In Society (DIS) - 5 (Traumatology 2, toxicology and applied medical ethics)
Credits	: 3
Prerequisite	: None
Core/ Optional	: Core course
Aim/s: To identify, document and interpret the effects/causes of natural disease, trauma and toxins for legal purposes while utilizing the appropriate resources, protecting vulnerable groups and ensuring ethical medical practice.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • interpret injuries and their consequences which occur as a result of trauma for medico legal purposes. • evaluate and determine the groups of people who may need special care and act accordingly and within the legal framework. • interpret injuries and their consequences which occur as a result of toxic substances for medico legal purposes. • apply the principles of ethics to solve problems that arise during medical practice. • evaluate the use of photography, radiology and other investigations used in medico legal practice. • identify evidence which may suggest a sudden natural death. 	
Time Allocation	: Lecture/ Discussion 45h
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Asphyxial deaths (smothering, suffocation, choking, gagging, strangulation, hanging, traumatic, postural and sexual asphyxia, drowning), Forensic toxicology, Criminal miscarriage, Torture and deaths in custody, Sexual offenses, Forensic radiology, Forensic photography, Forensic psychiatry, Drunkenness , Transportation injuries, Fire arm injuries and injuries due to explosions, Child abuse and domestic violence, Infanticide and Sudden infant death syndrome, Starvation and neglect, Sudden natural deaths, Applied medical ethics</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Shepherd R. Simpson's Forensic Medicine. 12th ed. Oxford University Press, London 2003
2. Knight B, Saukko P. Knight's Forensic Pathology 3rd ed. Oxford University Press. London 2004
3. De Maio DJ, De Maio VJ. Forensic Pathology. 2nd ed. CRC press. London 2001
4. Gordon I, Shapiro HA, Berson SD. Forensic Medicine. A guide to principles 3rd ed. Churchill Livingstone. New York 1988
5. Fisher RS, Petty CS. Forensic Pathology. A handbook for pathologists. Castle house publications. London 1980
6. Mason JK. The pathology of trauma. Edward Arnold. Edinburgh. 1992
7. Mason JK, Purdue BN. The pathology of trauma 3rd Ed. Oxford University Press. London. 1999
8. Fisher RS, Spitz WU. Medicolegal investigation of death. 3rd ed. Charles C Thomas USA. 1993
9. Mant AK. Taylor's principles and practice of Medical jurisprudence 13th ed. Churchill Livingstone. New Delhi 1984
10. Alwis LBL. Medical law, ethics, duties and forensic psychiatry. First edition, 2007

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 4131
Course Title	: Hospital Communication (CLR – 5)
Credits	: 01
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To produce doctors with adequate knowledge and skills on hospital communication methods and techniques.	
Intended learning outcomes: Student should be able to, <ul style="list-style-type: none"> • describe communication methods used in a hospital and their applications. • write the diagnosis according to the version 10 of International Classification of Diseases (ICD). • describe the importance of using basic concepts in hospital management. 	
Time Allocation : Lectures 15h	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>The purpose and technique of writing notification forms, death and birth certificates, diagnosis on the bed head tickets (BHT), diagnosis cards, Importance of using the International Classification of Diseases (ICD), Prescription writing, Writing the BHTs, referral letters, request forms, Quality assurance method used in hospitals, Japanese “five S method”.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. WHO (2010). International Statistical Classification of Diseases and Related Health Problems 10th edition. WHO

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 4232
Course Title	: Haematology
Credits	: 1
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To enable students to understand the pathogenesis, diagnosis and principles of management of common haematological disorders.	
Intended learning outcomes : The student should be able to, <ul style="list-style-type: none"> • explain the process of blood cell formation, normal structure, function and destruction of blood cells. • describe the pathogenesis, diagnosis and treatment of common haematological disorders. • explain the basis of blood grouping, compatibility testing , indications and adverse effects of blood components and blood products. 	
Time Allocation : Lectures 15h	
<p style="text-align: center;">Course syllabus /Course Description</p> <p>Haemopoiesis, Red cells, Anaemia (Hypochromic and microcytic anaemia, Macrocytic anaemia, Haemolytic anaemia, Thalassaemias and haemoglobinopathies), White cells, Myeloproliferative disorders, Acute leukaemias Chronic leukaemias, Myeloma and paraproteinaemia, Pancytopenia, Aplastic anaemia, Bleeding disorders, Coagulation disorders, Anticoagulation, Blood transfusion, Blood products, Adverse effects of blood transfusion, Massive transfusion, Haemolytic disease of the new born</p>	

Recommended Reading and /or References and/ or Prescribed Texts

1. Lecture notes in Haematology, S. N. Wikramasinghe
2. Essential Haematology, A. V. Hoffbrand

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 4233
Course Title	: Doctor In Society (DIS) - 6
Credits	: 3
Prerequisite	: None
Core/ Optional	: Core
Aim/s: To provide knowledge on applications in applied epidemiology, concepts in community paediatrics, concepts in health promotion, principles in health economics and to create awareness of the functions of special units in the public health system in Sri Lanka.	
Intended learning outcomes; The student should be able to, <ul style="list-style-type: none"> • describe the principles and applications in applied epidemiology. • understand the concepts of community paediatrics. • describe the concepts of health promotion and their application. • describe the duties and functions carried out by the special units in the public health system. • explain principles of health economics. 	
Time Allocation	: Lectures 33 h , SGD/ Seminars 12 h
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Natural history of disease, Communicable disease transmission, surveillance and prevention, Epidemiological investigation, Screening for diseases, Screening newborns, Child development and development delays, Management of neonatal problems, Children with special needs, Common health problems in children, Child abuse, Mental health, Health of the elderly, Disability as a public health problem, General practice, Health economics, International health, Functions and duties of special units in the public health sector, Geographical information system, Hospital administration.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Park's Textbook of Preventive and Social Medicine by K. Park
2. Oxford Textbook of Public Health, Edited by Roger Detels, James McEwen, Robert Beaglehole and Heizo Tanaka
3. Community Paediatrics by Leon Polnay
4. Manual on Child Development by S. Lingam
5. Care of the Older persons by WHO

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Course No	: Med 4234
Course Title	: Research Project (CLR – 6)
Credits	: 05
Prerequisite	: Successful completion of medical statistics and research methodology modules
Core/ Optional	: Core
Aim/s: To produce a doctor who is capable of conducting scientific inquiry, research and make decisions based on scientific evidence.	
Intended learning outcomes: Students should be able to, <ul style="list-style-type: none"> • identify an appropriate research problem and formulate a research hypothesis and objectives. • conduct a scientific literature review and document, select an appropriate research method to achieve the objectives. • write a research protocol scientifically, identify ethical issues and complete the Ethical Review application forms correctly. • collect and analyze relevant information using appropriate statistical methods. • interpret research results and make scientific conclusions. • write a research report 	
Time Allocation : Field Work research work – spanning over 4 semesters	
<p style="text-align: center;">Course Syllabus/ Course Description</p> <p>Scientific basis of decision making, Different areas of research, Important components/steps in a research protocol, Reviewing available literature and other information, Summarize important information obtained from literature, Writing a review of literature relevant to the research proposal, Differences between general and specific objectives, Research hypothesis, Characteristics of research objectives, Writing citations and references. Selection of correct research method, Data collection techniques, Sample size calculation, Sampling, methods to minimize the error reduction, Ethical issues, Data analysis, Scientific conclusions based on data, Writing discussion, Identification of limitations and making recommendations.</p>	

Recommended Reading and/ or References and/ or Prescribed Texts

1. Corlien M. Varkevisser, Indra Pathmanathan, Ann Brownlee (2003). Designing and Conducting
2. Health Systems Research Projects, volume 1, KIT Publishers, Amstradam in association with WHO.
3. R Bonita, R Beaglehole, T Kjellström (2006). Basic Epidemiology. 2nd edition, World Health Organization.
4. Hulley, S. B. (2007). Designing clinical research. Philadelphia, PA, Lippincott Williams & Wilkins.
5. Rothman, K. J., S. Greenland, et al. (2008). Modern epidemiology. Philadelphia, Wolters Kluwer Health/Lippincott Williams & Wilkins.
6. Schlesselman, J. J. and P. D. Stolley (1982). Case-control studies : design, conduct, analysis. New York, Oxford University Press.

Assessment	Percentage Mark/ Percentage Mark Range		
Continuous Assessment			
Assessments/ Labs			
Tutorials			
Mid-semester Examination			
End of Semester Evaluation	100%		

Section III: Rules & regulations governing examinations in the Faculty of Medicine

CLAUSE I

Nature of the Curriculum

The two components of the curriculum (clinical and non clinical) have different systems of examination.

Non clinical component

CLAUSE II

Semesters

Teaching/learning activities of the non clinical component of the curriculum take place during semesters. While each academic year consists of two semesters one semester is equivalent to 15 weeks of course work. Each semester is identified by the year and semester number. e.g. Year one semester one (Y1S1), year two semester two (Y1S2).

CLAUSE III

Module

Subject matter in the non clinical part of the curriculum is arranged as modules within a semester.

CLAUSE IV

Credits

Each module has a credit value which is proportional to the amount of work done in that module.

One credit = 15 hours of lectures or small group discussions/ tutorials
or
30 hours of practical work

CLAUSE V

End semester examination

Most of the modules are tested by an 'end semester examination', at the end of the semester that the module is taught in. These examinations use a variety of assessment methods eg., Multiple Choice Questions - MCQ (including true/false type, single best response and extended matching items), Structured Essay Questions (SEQ), Short Answer Questions (SAQ), Essay questions, Objective Structured Practical Examinations (OSPE), Objective Structured Clinical Examinations (OSCE), Viva voce, Portfolio entries, Reports and Presentations.

CLAUSE VI

Grades

The grades obtainable for a module are on a scale of A+ to E, C being the pass grade. Any student obtaining a grade of C- or less in any module should sit the examination for the same module at the next available examination or at the repeat examination. The maximum possible grade obtainable in any subsequent attempt is C.

CLAUSE VII

Grade Point Average

The Grade Point Average (GPA) is calculated considering the grades obtained for all modules of the first two years.

The Grade Point, for each grade, is as follows

From 2010/11 batch onwards (UGC circular: No, 901 dated 25/11/08)

Grade	Point
A+	4.00
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00
E	0.00

The Grade Point Average (GPA) is calculated as follows

$$\frac{\text{Total number of points a student has obtained in all the modules}}{\text{Total number of credits for all those modules}} = \text{GPA}$$

The mathematical formula is expressed viz.
$$\text{GPA} = \frac{\sum c_i g_i}{\sum c_i}$$

c_i & g_i are the numbers of credit units and grade points of the i^{th} course unit respectively.

CLAUSE VIII

Second MBBS & Barrier

Only students who have obtained a GPA of 2 and a minimum grade of C in all modules of years one and two (ie Y1S1, Y1 S2, Y2 S1 & Y2 S2) are allowed to proceed to year three semester one (Y3 S1) and clinical training. This functions as a 'barrier', prior to commencement of the year three program.

The GPA and summary of results released at this point shall be referred to as the results of the 2nd MBBS examination.

CLAUSE IX

Third MBBS

A similar GPA is calculated for modules of years three and four (ie Y3S1, Y3S2, Y4S1, Y4S2). Students are not allowed to sit the final MBBS examination unless they obtain a minimum GPA of 2 and a minimum grade of C in all modules of years 3 and 4.

The GPA and summary of results released at this point shall be referred to as the results of the 3rd MBBS examination.

CLAUSE X

Classes

The award of classes at examinations will be based on the GPA and will be according to the format below

From 2010/11 batch onwards (UGC circular: No, 901 dated 25/11/08)

GPA	Class Awarded
3.70-4.00	First Class
3.30-3.69	2 nd Class Upper
3.00-3.29	2 nd Class Lower

CLAUSE XI

Attendance

80% attendance for the total of lectures, small group discussions and practical classes of any particular module is necessary for a student to be eligible to sit the examination.

CLAUSE XII

Repeating Examinations

A student getting a grade of C- or less in any module should sit the next available examination or the repeat examination to upgrade this to a C.

CLAUSE XIII

Award of Distinctions, Prizes & Medals

The preclinical and paraclinical departments (Anatomy/ Biochemistry/Physiology Parasitology/Pharmacology/Microbiology/Community Medicine/Forensic Medicine/Pathology) will award distinctions, prizes and medals for the relevant subjects either on the basis of marks obtained;

- i) for the relevant module **or**
- ii) at a special merit examination

The minimum requirement for a distinction is, 70% on a scale of 0 to 100.

CLAUSE XIV

2nd MBBS Barrier –number of attempts

A student must complete each of the modules of the Y1S1, Y1S2, Y2S1, Y2S2 semester examinations within four attempts. If a student is unable to fulfill this requirement his/ her studentship will be terminated.

CLAUSE XV

With Respect to Any Examination

1. A student must sit the first available examination unless a valid excuse has been submitted to the Faculty and accepted by the Senate.
2. The first available attempt is the examination in respect to a module, for which a student has been assigned to and is held at the scheduled end of the module, course or subject
3. If an excuse submitted to the Faculty for failure to sit an available examination is accepted by the Senate, that examination shall not be considered as an attempt.
4. A valid excuse shall be
 - (a) An illness; or
 - (b) A personal problem (described under item 6 below)
5. In case of an illness while in halls of residence, the student should contact the Chief Medical Officer (CMO) at the University Health Centre immediately. If a student falls sick at home or elsewhere during sessions or examination time he/she or his/her guardian should inform the Dean of the Faculty of Medicine within five days by telegram, electronic media, followed by a letter indicating the nature of illness and the name of the attending doctor. The student should report to the CMO with a valid medical certificate at the earliest opportunity within two weeks of the last day of examination. Validity of the certificate would be determined by the Senate rules governing acceptance of Medical Certificates.
6. In case of a personal problem involving an immediate family member, the student should contact the Dean/Medicine immediately by telegram, followed by a letter indicating the circumstances leading to his/her being absent from the examination. His/her excuse will be considered by the Board of the Faculty of Medicine. Grounds for consideration would be:

- i. Death of an immediate family member
- ii. Serious illness, requiring personal attention by the student, certified by a medical practitioner specified in the Senate rules and regulations governing medical certificates.
- iii. Student participation in a university or national level activity for which prior permission has been obtained from the Senate.
- iv. Any other cause such as a natural disaster certified by a competent authority clearly precluding a student from sitting the examination.

Clinical Training and the Final MBBS Examination

CLAUSE XVI

Subjects

The training in clinical subjects begins after successful completion of the 2nd MBBS examination. The subjects are Medicine, Surgery, Obstetrics and Gynaecology and Paediatrics. Psychiatry will be a final MBBS subject in 2015. At present, Psychiatry is included in Medicine. Anaesthesiology & critical care is taught as a module and assessed in the final MBBS Surgery examination.

CLAUSE XVII

Training & Attendance

Training is largely hospital based and supplemented with lectures. Clinical training is divided into clinical appointments. 100% attendance is compulsory for all clinical appointments. A certification of attendance and satisfactory work in respect to every appointment must be obtained, in the form of a signature in the student record book, from the supervising consultant. If the student fails to do so for any single appointment he/she would not be eligible to sit the final MBBS examination. 80% attendance at lectures, in each subject, is a requirement to sit the final MBBS examination.

CLAUSE XVIII

Nature of the Examination -

The marks for the final MBBS in each subject comprises of marks from the following components

Continuous assessment

Theory –Common MCQ, structured essay questions (SEQ)

Clinical – Long case, short case

Viva voce in some subjects

Spots/ Objective structured clinical examination (OSCE)

The MCQ paper is common to all faculties of medicine and is held on the same day at the same time.

(The Common MCQ Examination is held twice a year. When the students have completed the five year MBBS course they are expected to sit the common MCQ examination held immediately thereafter)

Format of the final MBBS Examination -

The format was decided at a workshop on modernizing the final MBBS examination, conducted by the Standing Committee of the Medical and Dental Sciences of the UGC, attended by representatives of all medical faculties (Section IV). It will replace the format of the current final MBBS examination.

CLAUSE XIX**Pass**

The pass mark with respect to each subject is described by the UGC Standing Committee document (Section IV)

CLAUSE XX**Distinction**

A mark of 70% or above in a subject is necessary for the award of a distinction. These are awarded only to those completing an examination in the first attempt.

CLAUSE XXI**Prizes & Medals**

Prizes and medals are awarded on the basis of endowments made and are governed by the condition of the endowment. These are awarded only to those completing an examination in the first attempt. Medals require a minimum of 70%.

CLAUSE XXII**Referred and Fail**

Final year examination in detail:

Students will have to successfully complete the final MBBS within ten academic Years from the date of entering the University.

In any given attempt the student is required to take all the subjects in which he/she needs a pass to complete the examination.

A student who has passed in at least one subject and has obtained a minimum of 25% marks in other subject/s shall be considered to be referred in the latter subject/s.

If a student gets less than 25% in one subject of an examination/part he or she fails the whole examination.

A student who has passed three subjects at the final examination will have to pass the other subject within the maximum period allowed to complete the course (ten academic Years).

A student who has passed any two subjects will have to complete the final examination by passing the other two subjects within the next three scheduled attempts following a pass in the second subject. Failing this, he/she will have to re-sit the whole examination.

A student who has passed only one subject at the final examination will have to pass at least one other subject within the next three scheduled attempts. Failing this, he/she will have to re-sit the whole examination.

CLAUSE XXIII

Classes

With respect to the final MBBS, classes are awarded on the basis of the average overall mark as shown below. This proposal was implemented from 2007/08 batch.

Average Mark per subject	Class
60-64	Second Class Lower
65-69	Second Class Upper
70 above	First Class

The candidates must pass all subjects in the first attempt to obtain a class.

CLAUSE XXIV

University Rules

All other university examination rules apply with respect to the final MBBS

CLAUSE XXV

Time Limitation

A student cannot be a candidate for the final MBBS examination if a period of ten academic years has lapsed since his/her registration.

The exceptions to this rule are:

1. When the university is closed for administrative reasons
2. Medical leave is obtained with prior approval up to a period of two years.
Such periods of time will not be included in the ten year limitation.

CLAUSE XXVI

Award of the Degree of Bachelor of Medicine & Bachelor of Surgery.

The degree of MBBS is awarded to a student who has successfully completed the final MBBS examination, the third MBBS examination and the second MBBS examination within ten years of registration while adhering to all the rules and regulations laid down by the UoP and the Faculty of Medicine with respect to examinations.

Section IV: Final MBBS examination format

Final MBBS examination is held at the end of the fifth year. It consists of five subjects; medicine, surgery, obstetrics and gynaecology, paediatrics, psychiatry (from 2009/2010 batch onwards).

The final MBBS examination evaluates knowledge, skills and attitudes gained through all five years; the emphasis being on clinical competencies and applied basic sciences.

Subject of Medicine

Assessment		Percentage marks
Continuous assessment		20%
End of the course assessment		80%
Theory		40%
	Common paper- Multiple Choice Questions/Single best Answer Questions	20%
	Structured Essay Questions/Long Essay	20%
	Minimum marks required to pass in theory	45%
Clinical		40%
	Long case	20%
	Short cases	20%
	Minimum marks required to pass in clinical	50%

Subject of Surgery

Assessment		Percentage marks
Continuous assessment		20%
End of the course assessment		80%
Theory		40%
	Common paper- Multiple Choice Questions/Single best Answer Questions	20%
	Structured Essay Questions/Long Essay	20%
	Minimum marks required to pass in theory	45%
Clinical		40%
	Long case	20%
	Short cases	20%
	Minimum marks required to pass in clinical	50%

Subject of Paediatrics

Assessment		Percentage marks
Continuous assessment		20%
End of the course assessment		80%
Theory		40%
	Common paper- Multiple Choice Questions/Single best Answer Questions	20%
	Structured Essay Questions/Long Essay	20%
	Minimum marks required to pass in theory	45%
Clinical		40%
	Long case	20%
	Short cases	20%
	Minimum marks required to pass in clinical	50%

Subject of Gynaecology and Obstetrics

Assessment		Percentage marks
Continuous assessment		10%
End of the course assessment		90%
Theory		40%
	Common paper- Multiple Choice Questions/Single best Answer Questions	20%
	Structured Essay Questions/Long Essay	20%
	Minimum marks required to pass in theory	45%
Clinical		50%
	Gynaecology case	15%
	Obstetrics case	15%
	Objective Structured Clinical Examination	20%
	Minimum marks required to pass in clinical	50%

Subject of Psychiatry*

Assessment		Percentage marks
Continuous assessment		10%
End of the course assessment		90%
Theory		50%
	Common MCQ	25%
	SEQ	25%
	Minimum marks required to pass in theory	45%
Clinical		40%
	Long case	25%
	Short cases	15%
	Minimum marks required to pass in clinical	50%

* This will be valid from 2009/2010 batch

The above format of the Final MBBS examination will be followed by all medical faculties in the country as agreed at the UGC Standing Committee on Medical and Dental Sciences.

