STUDENT HANDBOOK 2023/2024

Faculty of Allied Health Sciences
University of Peradeniya

FACULTY OF ALLIED HEALTH SCIENCES
UNIVERSITY OF PERADENIYA

HANDBOOK - 2023/2024

Table of Contents

Vision and Mission

The vision of the Faculty of Allied Health Sciences is to be an internationally recognized leader in allied health education.

The mission is to provide nationally and internationally accredited undergraduate and postgraduate education and training through conduct of research and dissemination of knowledge to produce competent professionals having social sensitivity and humane qualities.

Message from the Vice-Chancellor

Dear Students,

It is with great pleasure that I welcome you, the new entrants of the Faculty of Allied Health Science, to the University of Peradeniya–Sri Lanka's pioneering higher educational institute, one of the highest-ranked higher universities renowned for its nine faculties and four postgraduate institutes that span a wide array of academic disciplines.

Gaining entry to the University of Peradeniya is a significant achievement, and you are now part of a privileged group ready to experience an exceptional academic environment. Nestled in a serene setting overlooking the Hanthana mountain range and bordered by the Mahaweli River, our university offers a unique opportunity for you to pursue your higher education goals in a truly inspiring atmosphere.

Your primary responsibility now is to make the most of this rare opportunity, earned through years of hard work, to achieve your academic objectives and grow into a well-rounded, balanced citizen. The University of Peradeniya provides an environment that is conducive to intellectual pursuits across a diverse range of fields, and I encourage you to take the fullest advantage of the resources and opportunities available to you.

I wish you a very pleasant and memorable stay at the university and every success in your academic journey.

Warm regards,

Prof. Terrence Madhujith
Vice-Chancellor
University of Peradeniya

Message from the Dean

Dear Students,

Congratulations on your admission to the Faculty of Allied Health Sciences, University of Peradeniya to follow BSc Honours Degree Programmes.

On behalf of the staff and students of the Faculty of Allied Health Sciences, I have the pleasure to welcome you all to the University of Peradeniya and to the faculty.

You are considered as a very privileged group of students admitted to the largest university of Sri Lanka to follow the degree programmes in Nursing, Pharmacy, Medical Laboratory Science, Physiotherapy, Radiography and Radiotherapy. The Faculty of Allied Health Sciences offers four-year honours degree programmes which are designed according to the international standards. As the Dean of the Faculty, I would like emphasize that you have to use the time spend in the university diligently and you need to concentrate on studies though there will be many range of priorities to attend to.

Faculty of Allied Health Sciences has six departments and all departments are well equipped with highly competent and dedicated academic and non-academic staff members. Conducive learning environment is in place with state-of-the art facilities enabling you to carry out the studies well.

Our graduates are having ample job opportunities in different disciplines locally and globally. Since many of you will be working as health care professionals, your career shall be a noble profession engraved with a desire to care and to alleviate human suffering. Thus, your future shall also depend on your commitment and dedication to follow the degree programme.

I hope that you will enjoy your undergraduate life at University of Peradeniya and fulfill your aspirations and pave the way for a rewarding career.

I wish you good luck in your future endeavors.

Prof. M.D.M.L.D.K. Yatawara
Dean, Faculty of Allied Health Sciences
University of Peradeniya

Background

University of Peradeniya

The University of Peradeniya traces its origins to the University of Ceylon, established by the Ceylon University Ordinance in Colombo, in July 1942. It was later transferred to Peradeniya, which could house several faculties, halls of residence and staff quarters. Sir William Ivor Jennings, the key personality responsible for the process became the first Vice Chancellor of the "University of Ceylon, Peradeniya Campus" which was opened on 20th April, 1954 by the Duke of Edinburgh. Leter, according to the University Act No: 16 of 1978 section 139-1, the Peradeniya campus was re-established as an independent university, as the "University of Peradeniya" Currently, the University of Peradeniya consists of nine academic faculties, namely, Faculty of Agriculture, Faculty of Allied Health Sciences, Faculty of Arts, Faculty of Dental Sciences, Faculty of Engineering, Faculty of Management, Faculty of Medicine, Faculty of Science, and the Faculty of Veterinary Medicine and Animal Sciences. The University of Peradeniya also houses three postgraduate institutes: Post Graduate Institute of Agriculture, Post Graduate Insitute of Humanities and Social Sciences, and the Post Graduate Institute of Science.

Faculty of Allied Health Sciences (FAHS)

The Faculty of Allied Health Sciences (FAHS) was inaugurated on 16th January 2007. The faculty comprises six academic departments conducting B.Sc degree programmes in Medical Laboratory Science, Nursing, Physiotherapy, Radiography, Radiotherapy and Bachelor of Pharmacy. As the faculty offers professional degree programmes, students are introduced to basic concepts in medical sciences followed by mandatory hospital-based training. All degree programmes have been designed on par with international standards. All departments have established active foreign collaborations in teaching and research.

Faculty Administration

Office of the Dean

The Dean is the academic and administrative head of the faculty and is assisted by the Assistant Registrar, Assistant Bursar and a team of clerical, technical, and other service staff members. The Office of the Dean is the administrative centre of the faculty, which handles matters related to course registration, student requests and examinations.

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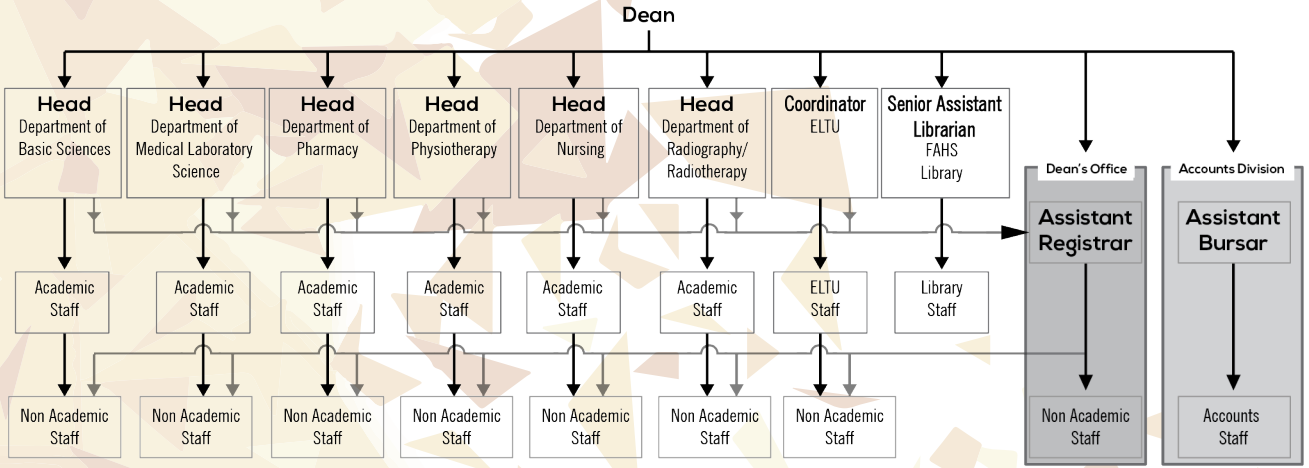
Faculty Web : http://ahs.pdn.ac.lk
E-Learning System : http://ahsmoodle.pdn.ac.lk
Student support: studentservices@ahs.pdn.ac.lk

Organizational Structure



Academic Programmes

- Bachelor of Science Honours in Medical Laboratory Science
- Bachelor of Science Honours in Nursing
- Bachelor of Pharmacy Honours
- Bachelor of Science Honours in Physiotherapy
- Bachelor of Science Honours in Radiography
- Bachelor of Science Honours in Radiotherapy

DEPARTMENT OF
MEDICAL LABORATORY SCIENCE

Vision

To be a centre of excellence by developing, promoting and disseminating the knowledge of Medical Laboratory Science through education and research

Mission

To provide sound scientific knowledge and skills for medical laboratory science undergraduates and postgraduates to develop competencies necessary for the provision of modern laboratory services, research and development as a nationally and internationally recognized Medical Laboratory Scientist

Graduate profile

1. Be a versatile, compassionate, dedicated and accountable professional in medical laboratory science who will provide continuous quality laboratory service for the national and international community, irrespective of their socioeconomic status, ethnicity, gender, identity, disability and age.

2. Be an effective communicator who has the ability to adapt to diverse audiences, communicate effectively with patients and other healthcare providers, and be sensitive to their needs under relevant circumstances.

3. Be a leader who knows the health needs of individuals/groups and play a role in motivating subordinates and the community to improve the quality of life.

4. Be an innovator who is sensitive to health needs of the society, being creative and innovative to make changes and to introduce sustainable solutions in levelling up the medical diagnostics.

5. Be a manager who will be able to work effectively and harmoniously with others, both within and outside of the healthcare system to recognize the needs of patients and the community.

6. Be a researcher who will act as a professional educator and scientist at the interface of modern laboratory science and medical science and be able to improve themselves according to the advancement of biomedical science and research.

7. Be a collaborator who will demonstrate the ability to work interdependently with diverse perspectives to promote learning and achieving common goals.

8. Be a self-learner and a lifelong-learner who will strive his or her best to maintain the knowledge, skills and attitudes on their respective fields up to date.

Department of Medical Laboratory Science

Academic Staff

Phone: 081-2065788

Dr. B.C.G. Mendis; B.Sc. Medical Laboratory Science (Peradeniya),
M.Sc. in Applied Epidemiology (Peradeniya), Ph.D. (Japan)
Head of the Department

Prof. H.M.T.U. Herath; B.Sc. Zoology Sp. (Peradeniya), Ph.D. (London, UK)
Prof. M.D.M.L.D.K. Yatawara; B.VSc. (Peradeniya), Ph.D. (Japan), FSLCVS
Dr. M.P.S. Mudalige; B.Sc. Zoology Sp. (Sri Jayawardenapura), Ph.D. (Ruhuna)
Dr. G.S. Weerasinghe; MBBS (Peradeniya), PG Diploma in Pathology (Colombo),
MD in Histopathology (Colombo), Consultant Histopathologist
Ms. S. Thilakarathne; B.Sc. Medical Laboratory Science (Peradeniya), M.Phil. (Peradeniya)
Ms. R.M.H.W. Rathnayake; B.Sc. Medical Laboratory Science (Peradeniya), M.Phil. (Peradeniya)
Dr. P. K. S. Tissera; B.Sc. Medical Laboratory Science (Peradeniya),
M.Sc. in Medical Microbiology (Peradeniya), Ph.D. (South Korea)
Ms.W.K.H.Dheerasekara; B.Sc. Medical Laboratory Science (Peradeniya)
Ms. G.U. Vidanapathirana; B.Sc. Medical Laboratory Science (Peradeniya), M.Phil. (Peradeniya)

Dr. B.C.G. Mendis
Head of the Department
Senior Lecturer

Prof. H.M.T.U. Herath
Professor

Prof. M.D.M.L.D.K. Yatawara
Professor

Dr. M.P.S. Mudalige
Senior Lecturer

Dr. G.S. Weerasinghe
Senior Lecturer

Ms. S. Thilakarathne
Senior Lecturer

Ms. R.M.H.W. Rathnayake
Senior Lecturer

Dr. P. K. S. Tissera
Senior Lecturer

Ms.W.K.H.Dheerasekara
Lecturer(Probationary)

Ms. G.U. Vidanapathirana
Lecturer(Probationary)

Course Units Offered by the Department

Bachelor of Science Honours in Medical Laboratory Science

1000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 1101	Basic English for Allied Health Sciences 1	3*	None
AH 1101	Information Technology	2*	None
AH 1102	Human Physiology I	3	None
AH 1103	Basic Human Anatomy	3	None
ML 1101	Laboratory Practice, Safety and First Aid	2	None
ML 1102	Biochemistry	3	None
ML 1103	Histology	1	None

1000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 1202	Basic English for Allied Health Sciences 2	3*	None
AH 1201	General Pathology	3	None
AH 1202	Human Physiology II	3	None
ML 1201	Analytical Chemistry	3	None
ML 1202	Molecular Biology	1	None
ML 1203	General Microbiology	2	None
ML 1204	Professional skills in MLS	1	None

2000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 2103	Intermediate English for Allied Health Sciences 1	3*	None
ML 2101	Haematology I	3	AH 1102
ML 2102	Clinical Chemistry I	3	ML 1102 ǂ , ML 1201
ML 2103	Medical Bacteriology	2	ML 1203
ML 2104	Histotechnology	3	ML 1103, AH 1201
ML 2105	Specimen Collection and Transport	2	None

ML 2106	Basic Immunology	1	None
ML 2107	Molecular Genetics and Cytogenetics	2	None

2000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 2204	Intermediate English for Allied Health Sciences 2	3*	None
ML 2201	Haematology II	3	ML 2101
ML 2202	Clinical Chemistry II	3	ML 2102
ML 2203	Systematic Virology & Mycology	2	None
ML 2204	Cytotechnology	3	AH 1201, AH 1202
ML 2205	Medical Parasitology & Entomology	2	None
ML 2206	Immunotechnology	2	ML 2106
ML 2207	Biomedical Instrumentation	1	None

3000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
ML 3101	Transfusion Medicine	1	None
ML 3102	Clinical Chemistry III	3	ML 2101, ML 2202
ML 3103	Diagnostic Virology and Mycology	2	ML 2203
ML 3104	Laboratory Quality Assurance & Accreditation	3	None
ML 3105	Diagnostic Parasitology	2	ML 2205
ML 3106	Experimental Laboratory Technology	3	None
ML 3107	Medical Statistics	2	None
ML 3108	Research Methodology & Proposal Writing	2	None

3000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
ML 3201	Laboratory Management	2	None
ML 3202	Biotechnology and Molecular diagnostics	2	ML 2102
ML 3203	Diagnostic Bacteriology	3	ML 1203‡
ML 3204	Public Health Microbiology	2	None

ML^	Optional Courses	1	
ML 3207	Medical Ethics	1	None
ML 3208	Portfolio Development	1	None
ML 3209	Research Project	6	ML 3108
Optional Courses (Only one optional course should be selected)			
ML 3205	Healthcare Marketing	1	None
ML 3206	Human Resource Management	1	None

4000 LEVEL (Work Place- Based Training: 30 credits)

Course Code	Course Title	No. of Hours	Prerequisites
ML 4CLIN01	Haematology	250 hrs	ML 2101, ML 2201
ML 4CLIN02	Clinical Chemistry	300 hrs	ML 2102, ML 2202, ML 3102
ML 4CLIN03	Microbiology & Immunotechnology	400 hrs	ML 3103, ML 3203, ML 2206
ML 4CLIN04	Histotechnology & Cytotechnology	250 hrs	ML 2104, ML 2204
ML 4CLIN05	Medical Parasitology & Entomology	100 hrs	ML 3105
ML 4CLIN06	Transfusion Medicine	100 hrs	ML 3101
ML 4CLIN07	Industrial Training	100 hrs	ML 3201

* Courses will not be considered for GPA calculation
‡ Prerequisite courses that students should obtain a minimum of C grade

The final year is dedicated to fulltime work place-based learning (30 credits) and it does not follow the semester system/course unit system.

Total of 8 credits are allocated for Research Project and split between Research Methodology & Proposal Writing (ML 3108) as 2 credits and Reserch Project (ML3209) as 6 credits.

Prerequisites are met if course is followed, except courses marked as (‡) prerequisite courses. Followed means to meet the requirements stipulated in the Rules and Regulations in order to be eligible to sit for the end semester examination.

Synopses of Course Contents

1000 Level

ML 1101 Laboratory Practice, Safety and First Aid (2 Credits)

Introduction to laboratory safety, Organisation and design of a medical laboratory, Hazards associated with laboratories and means of prevention, Sterilization and disinfection, Laboratory waste disposal, Storage of chemicals and safety aspects, Occupational health in the laboratory, Use of bio safety manual in prevention of laboratory accidents, Use of safety cabinets, Safety aspects of using radioisotopes, equipment and processing of human samples, Washing glassware for laboratory use, First aid for emergency.
Course Assessment: In-course 30%, End-semester 70%

ML 1102 Biochemistry (3 Credits)

Introduction to Biochemistry, pH and buffer solutions, Structure and Function of macro- nutrients (Carbohydrates, Proteins, Lipids),Micro-nutrients (Vitamins and Minerals) and nucleic acids, Properties and kinetics of enzymes, Intermediary metabolism (Glycolysis, TCA cycle, Electron transport chain, oxidative phosphorylation, gluconeogenesis, pentose phosphate pathway), Metabolism of proteins, lipids and nucleotides, Regulation and integration of metabolism, Introductory Medical Biochemistry (Haemoglobinopathies, Collagenopathies, Glucose-6-phosphate dehydrogenase deficiency, Jaundice, Gout, Inborn errors of amino acid metabolism, Diabetes, Obesity, Lipid profile, Liver function tests, Kidney function tests, Glycemic index, Atherosclerosis), Biochemical tests for identification of Carbohydrates, Proteins and Lipids, Analysis of enzyme properties.
Course Assessment: In-course 30%, End-semester- 70%

ML 1103 Histology (1 Credit)

Introduction to histology specimen preparation, Histology of basic tissue types: epithelial tissue, supporting/ connective tissue, muscle tissue and nerve tissue, Histology of organ systems: respiratory, cardiovascular, gastrointestinal tract, accessory gastrointestinal organs, liver, pancreas and gallbladder, urinary system, endocrine system, male and female reproductive systems, nervous system, skeletal tissue, immune system and skin.
Course Assessment: In-course 30%, End semester 70%

ML 1201 Analytical Chemistry (3 Credits)

Introduction to basic equipment used in analytical chemistry, Measurement & errors in chemical analysis, Preparation of laboratory reagents & standardization, Titrations, Buffers, Centrifugation, Spectrophotometry and analytical aspects, Electrophoresis, Chromatography, Electro-analytical chemistry in laboratory analysis, Principles of enzymology, Detection methods.

Course Assessment: In-course 30%, End semester 70%

ML 1202 Molecular Biology (1 Credit)

Overview on cell division and cell cycle, DNA & RNA structure and function, DNA replication process, Gene expression, Transcription, Translation, Mutations and DNA repair mechanisms, Genes to genomes, Structure of a gene, Human genome and human genome project (HGP), Other genomes, Short tandem repeats (STR) and variations, Single nucleotide polymorphisms, Molecular basis of microbes, Embryonic stem cells & pluripotent stem cells and uses , Introduction to genetic engineering.

Course Assessment: In-course 30%, End semester 70%

ML 1203 General Microbiology (2 Credits)

Introduction to microbiology, History of microbiology, Taxonomy and classification of microbes, Microbial variety, Microbial metabolism and growth, Human microbiome concept, Microbial habitat and transmission, Microbial pathogenicity, Koch's postulates and proof of causation, Principles of detection and identification of microorganisms, Storage of microorganisms, Bacterial genetics, Basic microbiological techniques and quality control, Biosafety in microbiology.

Course Assessment: In-course 30%, End semester 70%

ML 1204 Professional skills in MLS (1 Credit)

History of Medical Laboratory Science, Legislation pertaining to health care system focusing Medical Laboratory Scientist as a profession and its development, Structure and practice settings, Role of MLS professional associations, Patient care and communication skills, interviewing skills, taking instructions, handling patient expectations, avoiding and handling complaints, Work and case management, Time management, Professional liability, mindfulness and stress management, Soft skills and good moral values for personal and professional development, Introduction to portfolio development.

Course Assessment: In-course 40%, End semester 60%

2000 level

ML 2101 Haematology I (3 Credits)

Introduction to haematology, Haemoglobin & determination of haemoglobin, Packed cell volume/haematocrit, Erythrocyte sedimentation rate, Preparation of blood smears & identification of common problems, Techniques of blood cell counting, Red blood cells and inclusions & indices, White blood cells & differential count, Reticulocytes & count, Morphology and function of platelets, Automated haematology analyzers, Quality control and identification of errors, Iron deficiency anaemia, Megaloblastic anaemia.
Course Assessment: In-course 30%, End semester 70%

ML 2102 Clinical Chemistry I (3 Credits)

The role of clinical chemistry in preventive medicine, Formation & composition of urine, Physical, chemical, microscopic examination of urine, Automated analysis of urine and point-of-care testing, Use of urine testing in diagnosis of inherited metabolic diseases, Renal calculi & chemical analysis of calculi, Renal diseases and renal function test, Disorders of fluid and electrolytes, measuring techniques, Acid-base imbalance, Abnormalities in glucose metabolism, Incorporate the indications, assay methods & their principles, sample collection & transport, processing & reporting, and quality control of above laboratory tests.
Course Assessment: In-course 30%, End semester 70%

ML 2103 Medical Bacteriology (2 Credits)

Characteristic features, pathogenicity, clinical conditions and identification tests of medically important bacteria, Traditional and rapid diagnostics in microbiology, Maintenance of quality of analytical processes.
Course Assessment: In-course 30%, End semester 70%

ML 2104 Histotechnology (3 Credits)

Introduction to histotechonology, Overview of main steps of histology specimen preparation, accession of histopathological specimens, fixation of tissues, grossing, tissue processing, decalcification of calcified tissues, paraffin embedding and blocking, microtomy, routine staining with H & E, mounting and labeling, Processing fresh histology specimens and cryosectioning, Mechanical faults and remedial measures in H & E stained paraffin sections, Special staining techniques for the evaluation of histological sections, Basics of immunofluorescence and immunohistochemistry techniques, Quality assurance in histotechonology, Accreditation procedures in

histopathology laboratory, Basic concepts of electron microscopy, Histometry, Preparation of fixatives, decalcifying agents, reagents for tissue processing, different haematoxylin stains, eosin stain and main special stains.
Course Assessment: In-course 30%, End semester 70%

ML 2105 Specimen Collection & Transport (2 Credits)

Blood collection techniques (finger prick, heel prick & venipuncture techniques), Anticoagulants, Separation of serum & plasma, Preparation of patients, communication with patients, Collection, transport, processing, and rejection criteria for different specimens in haematology, biochemistry, microbiology & histopathology, Safety aspects in specimen collection and transport, Pre-analytical errors in different disciplines.
Course Assessment: In-course 30%, End semester 70%

ML 2106 Basic Immunology (1 Credit)

Introduction, Cells and organs of the immune system, Innate & acquired immunity, Molecular mechanisms of innate and adaptive immunity, Antigens, antigen processing and presentation, Humoral immunity, immunoglobulins and antibody diversity, Antigen-antibody reactions, Cell-mediated effector responses, Complement system.
Course Assessment: In-course 30%, End semester 70%

ML 2107 Molecular genetics & cytogenetics (2 Credits)

Introduction to molecular genetics, Genetic recombination, Gene expression and regulation, RNA silencing, DNA damage and mutagenesis, DNA & RNA extraction methods, PCR technology, Gel electrophoresis, Ethical and societal impact of molecular genetics, Mendelian inheritance, Laws of inheritance, Sex linked inheritance, Pedigree analysis, Exceptions to Mendelian genetics, Chromosome morphology and structure, Cytogenetic concepts and nomenclature, Assisted reproductive technologies & birth defects, Chromosomal aberrations, chromosome culture & karyotyping methods, Genetic disorders and malignancies, Biochemical genetics, Gene therapy and techniques, Stem cell therapy and applications, Recombinant DNA technology, DNA diagnostics (restriction enzyme digestion and DNA fingerprinting).
Course Assessment: In-course 30%, End semester 70%

ML 2201 Haematology II (3 Credits)

Haemolytic anaemia, Aplastic anaemia & pancytopenia, Laboratory investigations and interpretation of thalassaemia and other haemoglobinopathies, Interpretation of haemoglobin electrophoresis, G6PD

deficiency, WBC disorders and myeloproliferative disorders (leukaemia, lymphoma and multiple myeloma) and paraproteinaemia, Interpretation of flow cytometry, Laboratory investigations for bleeding disorders, Coagulation disorders and thrombotic tendency, Cytogenetics in the diagnosis of haematological disorders.
Course Assessment: In-course 30%, End semester 70%

ML 2202 Clinical Chemistry II (3 Credits)

Abnormalities in lipid metabolism, Clinical significance in lipoproteins, Lipid profile, Clinical enzymology, Cardiac markers, Tumor markers, Liver and GI disorders, Liver function tests, Heme degradation and bilirubin metabolism, Heme biosynthesis and porphyrias, Plasma proteins and their clinical relevance (including acute phase proteins), Exudates & transudates, Examination of other body fluids, Diseases related to CNS and analysis of CSF, Principles of enzyme analysis and photometry.
Course Assessment: In-course 30%, End semester 70%

ML 2203 Systematic Virology and Mycology (2 Credits)

Introduction to fungi, Classification and general properties of fungi, Yeasts (Candida, Cryptococcus), Dimorphic fungi, Dermatophytes, Filamentous fungi pathogenic to humans,
Introduction to viruses including classification and general properties of viruses, General aspects of virology with reference to DNA viruses and RNA viruses , Maternal viral infection that affect the foetus and neonate, Medically important viral infection in immunocompromised patients, Pathogenesis and control of viral diseases.
Course Assessment: In-course 30%, End semester 70%

ML 2204 Cytotechnology (3 Credits)

Introduction to cytotechnology, Overview of cytopreparatory techniques, Cytological fixatives, stains and staining techniques, Cytopreparatory techniques of non-gynecological cytology specimens, pleural, peritoneal and pericardial fluids, CSF, specimens from the respiratory tract, GIT and the urinary tract, fine needle aspiration cytology specimens, Specimens of gynecological cytology, cytological sampling techniques of the female genital tract and preparation of smears, normal and abnormal cervical cytology, Introduction to Bethesda system for reporting cervical cytology, Ancillary techniques in cytology, Cytocentrifugation, Basics of immunocytochemistry and flowcytometry, Artifacts in cytology and remedial measures, Quality assurance in cytology, preparation of fixatives, centrifugation and smear preparation; preparation of smears from fresh specimens, fixation of smears by wet fixation and air drying techniques, Cell block preparation, Preparation of Leishman, Giemsa , H & E stain

and Pap stain, Staining cytology smears, Identification of normal and abnormal cytological findings in Pap smears.
Course Assessment: In-course 30%, End semester 70%

ML 2205 Medical Parasitology and Entomology (2 Credits)

Introduction to parasitology & medical entomology, Intestinal & luminal protozoans, Intestinal nematodes, trematodes & cestodes, Malaria & its control/ eradication, other important tissue protozoans, Tissue nematodes, Human filariasis & control, Mosquitoes & other arthropods of medical importance, and control of arthropod borne infections.
Course Assessment: In-course 30%, End semester 70%

ML 2206 Immunotechnology (2 Credits)

Methods of detecting antigen-antibody reactions, Monoclonal antibodies, Determination of antibody titres, Flowcytometry, Laboratory diagnosis of autoimmunity, hypersensitivity and immunodeficiency, Serodiagnosis, Immunology in organ transplant/ implant, Vaccine production, Cancer immunodiagnostics and immunotherapy.
Course Assessment: In-course 30%, End semester 70%

ML 2207 Biomedical Instrumentation (1 Credit)

Basic concepts, calibration & maintenance of analytical instruments in a clinical laboratory, Biosafety cabinet, Laboratory automation, Automated blood culture analyzer, Automated haematology analyser, Semi/ fully automated biochemistry analyser, Tissue processor, Microtome, ELISA testing equipment and instruments used for PCR.
Course Assessment: In-course 30%, End semester 70%

3000 level

ML 3101 Transfusion Medicine (1 Credit)

Introduction to blood bank, ABO blood grouping and Rh typing, Discrepancies in ABO grouping, Other important blood group systems, Preparation of blood components, Screening tests for transfusion transmissible infections, Pre-transfusion tests, Direct and indirect Coombs tests, Antenatal serology, HLA/ tissue typing, Laboratory investigations for transfusion related reactions, Quality control of blood and blood products.
Course Assessment: In-course 30%, End semester 70%

ML 3102 Clinical Chemistry III (3 Credits)

Reproductive endocrinology, Sub fertility and assisted reproductive technologies, Seminal fluid analysis, Disorders in bone metabolism, Thyroid disorders, thyroid function tests, Diseases related to pituitary gland and adrenal gland, Principles of screening and the use of biochemical tests in inborn errors of metabolism, Clinical nutrition, Disorders in purine metabolism, Therapeutic drug monitoring, Toxicology, Blood gas analysis and point of care testing, Clinical chemistry at the extremes of age and pregnancy, Troubleshooting in clinical chemistry, Incorporate the indications, assay methods & their principles, sample collection & transport, processing & reporting, quality control of above laboratory tests.

Course Assessment: In-course 30%, End semester 70%

ML 3103 Diagnostic Virology and Mycology (2 Credits)

Laboratory diagnosis and prevention of fungal infections of medical importance including infections caused by yeasts (Candida, Cryptococcus), dimorphic fungi, dermatophytes and other filamentous fungal infections in humans, Laboratory diagnosis and prevention of viral infections caused by DNA viruses and RNA viruses, Maternal viral infection that affect the foetus and neonate, Pathogenesis, diagnosis and control of emerging and re-emerging viral infections, Laboratory diagnosis of viral infection in immunocompromised patients.

Course Assessment: In-course 30%, End semester 70%

ML 3104 Laboratory Quality Assurance & Accreditation (3 Credits)

Introduction to Quality Management System (QMS), concepts of quality assurance, internal quality control, external quality assurance, Standards, quality control & reference materials, Establishment of method verification & performance specifications, quality indicators, Systematic troubleshooting, Quality control in pre-analytical & post-analytical procedures in different disciplines of laboratory tests, Internal audits, Document control.

Introduction to laboratory accreditation, ISO 15189 standards, Sequence of accreditation & document preparation, Method of internal auditing, Measurement of uncertainty for different tests, calibration of equipment, Identify the opportunities for continual improvement within an organization.

Course Assessment: In-course 40%, End-semester 60%

ML 3105 Diagnostic Parasitology (2 Credits)

Micrometry relevant to parasitology, Faecal examination for parasitic infections: collection, transport and preservation of specimens, direct smears (Iodine, saline, eosin), concentration techniques, culture techniques,

permanent staining (trichrome, iron-haematoxylin, acid fast stains), Examination of blood/ smears for parasitological infections, direct, concentration techniques, Molecular and immunodiagnosis of malaria, filariasis, trichomoniasis, toxoplasmosis & leishmaniasis, Arthropods of medical importance, collection techniques, identification, preservation and transport to reference laboratories, dissection of medically important insects, Quality control and quality assurance in parasitology.
Course Assessment: In-course 30%, End semester 70%

ML 3106 Experimental Laboratory Technology (3 Credits)

Introduction of *in-vivo*, *in-vitro*, *in-silico* and *in-situ* techniques, Introduction to in-vivo experimental techniques, Use of laboratory animals, laboratory animal biology, nutrition, welfare, planning and handling, Alternative techniques used for laboratory animal research, Introduction to in-vitro experimental techniques, risk assessment, laboratory practices under sterile environment, Introduction to primary cells & cell lines and applications specially focusing on human cells, Identification of culture characteristics and culture environments, Culturing and maintenance of cells, Cryopreservation and cell banking, Disposal of cell culture waste, Introduction to regenerative medicine and tissue engineering, Introduction to in-silico methods for identifying biomarkers/ metabolites, Introduction to in-situ experimentation and applications.
Course Assessment: In-course 30%, End semester 70%

ML 3107 Medical Statistics (2 Credits)

Big picture of statistics, Data, Sample and population, Variables, Describing data, measures of central tendency, measuring variability, presenting data, Probability and normal curve, Hypothesis and hypothesis testing, Comparing means, parametric tests, hypothesis testing with categorical data, analysis of variance (ANOVA), Non-parametric tests, Introduction to linear regression, Applications of basic statistics knowledge in research (sample size calculations and selection of appropriate statistical test).
Course Assessment: In-course 30%, End semester 70%

ML 3108 Research Methodology & Proposal Writing (2 Credits)

Introduction to research in health sciences, Scientific method and the research process, Types and methods of research, Research designs and data collection tools, Use of search engines for literature review, Reference management system for citations, Use of statistical software for data analysis, Critical assessment on research and address ethical and practical issues, Conceptualization of research proposals referring to case studies,

surveys, interviews, participant observation and other published information.
Course Assessment: In-course 30%, End semester 70%

ML 3201 Laboratory Management (2 Credits)

Basic management concepts, Scope of medical laboratory management & laboratory manager's role, Laboratory planning & organization, Specimen management & processes, Personal management & training, Equipment management, Financial management, Chemical management & ordering process, Data management & statistics, Health & safety in laboratory, Medical laboratory waste management (routine and special), Occurrence management, Root cause analysis as a problem solving tool, Customer satisfaction surveys, Principles of good laboratory practice (GLP) & application, Risk assessment, Supply chain management.
Course Assessment: In-course 30%, End semester 70%

ML 3202 Biotechnology & Molecular Diagnostics (2 Credits)

Introduction and applications of biotechnology, Advanced recombinant DNA technology, DNA sequencing methods and applications, Functional genomics & proteomics, GWAS, oncogenomics, Precision medicine, Pharmacogenetics & pharmacogenomics, Gene editing, CRISPR and applications, RNA sequencing, Transcriptomics & microarray analysis, Introduction to bioinformatics and applications, Bioinformatics databases, Retrieving and analyzing sequence data, Phylogenetic analysis, Primer designing and genotyping assays, ethics in biotechnology,
Molecular diagnostics, DNA,RNA extraction, RFLP, DNA/RNA amplification using PCR/RT-PCR, Real time PCR & qPCR, multiplex & nested PCR, LAMP, post-PCR processing, Sequencing, Applications of molecular tools in diagnosis of genetic diseases, Biochemical disease screening, Cancer detection and infectious disease diagnosis, Forensic DNA analysis.
Course Assessment: In-course 30%, End semester 70%

ML 3203 Diagnostic Bacteriology (3 Credits)

Use of microbiology laboratory in the diagnosis of respiratory tract infections, gastrointestinal infections, sexually transmitted infections, central nervous system infections, bacteraemia/ infective endocarditis, skin and soft tissue infections, urinary tract infections, ENT & eye infections, Infection in the compromised host, Choice of appropriate test in an infective disease, Antibiotics and their mode of actions, Principles and procedures of different types of antibiotic sensitivity testing (ABST) methods used in diagnostic and research laboratories, Antibiotic resistance mechanisms and methods of their detection, Quality assurance in a microbiology laboratory.

Course Assessment: In-course 30%, End semester 70%

ML 3204 Public Health Microbiology (2 Credits)

Introduction to public health microbiology, Containment levels , Infections of public health importance in Sri Lanka and the world: mode of transmission, epidemiology of infectious diseases and role of public health microbiologists, Prevention and control of infection in the light of one health approach, Community and hospital outbreak investigations, Laboratory protocol and disease surveillance in relation to food poisoning, food and water borne diseases, Emerging and re-emerging infections, Zoonotic diseases, Tests used on food and water quality investigations, Bio-terrorism and bio-invasion.
Course Assessment: In-course 30%, End semester 70%

ML 3207 Medical Ethics (1 Credit)

Introduction and definition of terms, Principles of bioethics, History, Codes of ethics-Hippocratic oath and other codes, Introduction to medical ethics, Ethics in public health– rights, duties, obligations related to health care professionals and patients, Ethical issues related to professionalism, truth telling and informed consent, confidentiality, Ethics and mental health, Ethics in research, Ethics in use of animals in research, Ethics and biotechnology, Major ethical issues-in organ and tissue donation, biofuels, forensic use of bio information & international collaboration, Cases for discussion.
Course Assessment: In-course 40%, End semester 60%

ML 3208 Portfolio Development (1 Credit)

Develop an individual portfolio to reflect upon all learning experiences (soft skills and good moral values) including those that have taken place at outside working environments, in training programmes (workshops, seminars, conferences, and classes to enhance professional development), working as a volunteer, during self-study, while pursuing hobbies or other interests, etc. and consider multiple ways to provide evidences of different learning aspects within those environments.
Course Assessment: End semester 100%

ML 3209 Research Project (6 Credits)

Retrieval of information required such as conducting literature surveys, Identification and optimal utilization of available resources, Project execution, Ethical evaluation and safety evaluation when applicable, Follow the

approved research methodology, Data collection & analysis, Discussing the results, Making conclusions, Scientific dissertation writing according to the given format and presentation (oral) of the findings.
Course Assessment: In-course 30%, End semester 70%

Optional courses

ML 3205 Healthcare Marketing (1 Credit)
Introducing marketing and orientation towards marketing, marketing environment and marketing research, consumer market and consumer buying behavior, Market segmentation and selecting target markets, Product strategy and new product development, Pricing strategies and programs, Distribution strategy, Marketing communications strategy, Strategic marketing, Ethics and social responsibility in health care marketing, Emerging issues in healthcare marketing.
Course Assessment: In-course 30%, End semester 70%

ML 3206 Human Resource Management (1 Credit)
Introduction to human resource management, The role of human resource professionals, Job analysis & human resource planning, Employee recruitment & selection, Career management, Employee training, Employee development, Employee performance management, Compensation management, Emerging issues in human resource management, Talent management.
Course Assessment: In-course 30%, End semester 70%

4000 level

Work Place Based Training (30 credits)

ML 4CLIN01 Haematology
Preparation of glassware for haematology, Manual and automated techniques for cell count, Haemoglobin & indices, Blood film preparation & staining, ESR, Blood pictures (anaemia, thalassaemia, leukaemia), Maintenance of analytical equipment in haematology laboratory, Laboratory investigation for anaemias, Myeloproliferative disorders and multiple myeloma, Investigations of leukemia & lymphoma, Investigations of coagulation, bleeding disorders and thrombotic tendency, Bone marrow-slide preparation & staining, Haemoglobin electrophoresis,

Quality control in the haematology laboratory.
Course Assessment: In-course 30%, End semester 70%

ML 4CLIN02 Clinical Chemistry

Urine full report, Urine ketone bodies, bile, specific gravity, Seminal fluid analysis, Body fluid analysis, Blood glucose (FBS, PPBS, OGTT), Blood urea, Blood urea nitrogen, Serum creatinine, Serum bilirubin, Serum proteins, Serum protein electrophoresis, Serum electrolytes, SGOT/SGPT, Serum amylase, Alkaline phosphatase, Serum uric acid, Creatinine clearance, Urine micro albumin, Detail description is given on following aspects: (indication of the test, assay methods and their principles, reagent preparation, sample collection and transport, performance of tests, reporting and quality control in above testing)
Course Assessment: In-course 30%, End semester 70%

ML 4CLIN03 Microbiology & Immunotechnology

Specimen collection and transport, Processing and culture of all clinical specimens (related to bacterial, viral and fungal diagnosis including STDs), Preparation and quality assessment of all stains, reagents, culture media and biochemical tests, Methods of sterilization and disinfection, Waste management, All conventional and modern testing methods including quality control in a diagnostic microbiology laboratory, microbial sensitivity testing, serology and other point of care tests.
Course Assessment: In-course 30%, End semester 70%

ML 4CLIN04 Histotechnology and Cytotechnology

Basic laboratory techniques in histopathology laboratory:- Collection, labeling, fixation and transportation of surgical pathology and postmortem specimens according to the SOPs, Accession of specimens, decalcification, grossing, tissue processing, paraffin embedding and blocking, trimming and section cutting, handling the tissue floatation bath and the slide warmer, preparation of routine H & E stains and other types of haematoxylins, Staining tissue sections with Harris's haematoxylin and different types of commonly used H & E stains, mounting, labeling slides, Preparation of commonly used special stains and perform special staining techniques for evaluation of histology sections.
Basic laboratory techniques in cytology laboratory: Transportation and reception of cytology specimens including smears and fluids, prepare cytological fixatives and perform fixation methods of cyto-smears, Perform cyto-preparatory techniques of non-gynecological cytology specimens and gynaecological cytology specimens,

Preparation of smears from fresh specimens; fixation of smears, Cell block preparation, Preparation of Leishman, Giemsa , H & E and Pap stains, Saining gynaecological and non-gynaecological smears using above mentioned stains appropriately, Screen Pap smears according to Bethesda system for reporting cervical cytology,
Advanced techniques in histopathology and cytology laboratories: Cryosectioning; immunohistochemistry, Immunocytochemistry, Immunofluorescence technique, Processing specimens for electron microscopy, Identify and rectify the errors in all histotechnolgical and cytotechnological procedures, Identification of mechanical errors and faults in prepared histology slides and cytology smears, Transportation of fresh specimens and other special type of specimens for advanced laboratory procedures, Laboratory safety and waste disposal in histopathology laboratory, Automation in the histopathology laboratory, Quality assurance in histotechnology and cytotechnology.
Course Assessment: In-course 30%, End semester 70%

ML 4CLIN05 Medical Parasitology and Entomology

Preparation and examination of wet faecal smears (saline and iodine) for protozoans and helminthes, Identification of ova (concentration techniques & quantitative techniques), adult worms & larvae, tapeworm segments, Preparation of blood smears & stains (Leishman /Giemsa) & staining blood films for identification of malaria parasites and microfilariae, Rapid Diagnostic Tests (RDTs), Molecular and immunological techniques for parasitic infections, Preparation, staining & identification of Leishmania, Toxoplasma, Trichomonas, Cryptosporidium, Identification of eggs, larva & adults of medically important mosquitoes, Identification of medically important arthropod vectors (flies, ticks, mites, fleas, lice etc.).
Course Assessment: In-course 30%, End semester 70%

ML 4CLIN06 Transfusion Medicine

Perform ABO & Rh typing, Discrepancies in blood grouping, Other blood group systems, Pre-transfusion tests & identify any deviations from the expected results, Antenatal serology, Preparation of blood components/ products, Direct & indirect Coombs tests, Antibody screening & identification, Rh antibody titers, Cold antibody titers, HLA typing, investigations of transfusion reactions, Quality controls/ management in transfusion medicine.
Course Assessment: In-course 30%, End semester 70%

ML 4CLIN07 Industrial Training

Specimen management processes, Human potential management & training, Equipment management, Financial management, Chemical management & ordering process, Inventory handling, Data management & statistics,

Health & safety in laboratory, Medical laboratory waste management (routine and special), Occurrence management, Root cause analysis as a problem solving tool, Laboratory ergonomics, healthcare marketing.
Course Assessment: In-course 50%, End semester 50%

DEPARTMENT OF NURSING

Vision

To be a premier institution of higher education and research in nursing science in the country

Mission

To provide a cutting-edge teaching and learning environment that produces and promotes nurses of academic and professional excellence

Graduate Profile

Bachelor of Science Honours in Nursing graduates should:

1. Demonstrate inquiry mind, and be able to perform self-directed learning and self-development continuously throughout their career.

2. Provide safe and effective nursing care of a high standard in a variety of clinical settings such as general nursing, midwifery nursing, paediatric nursing, psychiatric nursing and community health nursing.

3. Contribute their critical and reflective thinking, problem solving, analytical and social skills to carry out nursing research and thereby enhance patient care.

4. Apply interpersonal skills to interact with diverse people in multi-cultural environments locally and internationally.

5. Utilize information and communication technologies to be used in academic and professional work.

6. Work in collaboration with nurses and other health care professionals towards a better outcome in patient care locally and internationally.

7. Work in a range of paradigms besides the clinical setup such as academia, research projects and public and private sector organizations.

8. Have respect towards the self, the nursing profession and be aware of professional values and rights underpinned by the nursing code of ethics.

Department of Nursing

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Lecturer(Probationary)

Ms. S.D. Maithreepala
Lecturer(Probationary)

Mrs. R.M.A. Chamika
Lecturer(Probationary)

Mrs. E.H.M.R.K. Ekanayake
Lecturer(Probationary)

Course Units Offered by the Department

Bachelor of Science Honours in Nursing

1000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 1101	Basic English for Allied Health Sciences 1	3*	None
AH 1101	Information Technology	2*	None
AH 1102	Human Physiology 1	3	None
AH 1103	Basic Human Anatomy	3	None
AH 1104	Introduction to Psychology	2	None
AH 1105	Basic Biochemistry	3	None
NS 1101	Foundation to Nursing Practice	1	None
NS 1102	Nursing Theory and Practice 1	3	None
NS 1103	Sociology and Anthropology	1	None

1000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 1202	Basic English for Allied Health Sciences 2	3*	None
AH 1201	General Pathology	3	None
AH 1202	Human Physiology 2	3	None
AH 1203	Basic Statistics	2	Noneh
NS 1201	Human Anatomy for Nurses	3	AH 1103
NS 1202	Nursing Theory and Practice 2	5	NS 1102
NS 1203	Pharmacology I	1	None

2000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 2103	Intermediate English for Allied Health Sciences 1	3*	None
NS 2101	Adult Nursing 1	4	AH1102, AH1103, AH1201
NS 2102	Nursing Theory and Practice 3	4	NS1101, NS1202
NS 2103	Pharmacology 2	3	NS1203

NS 2104	Ethics in Nursing	1	None
NS 2105	Pathology for Nurses	2	AH1201
NS 2106	Microbiology for Nurses	1	None
NS 2107	Communication Skills in Nursing	1	None

2000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 2204	Intermediate English for Allied Health Sciences 2	3*	None
NS 2201	Adult Nursing 2	5	AH1202, NS1201, NS2105
NS 2202	Nursing Theory and Practice 4	4	NS 2102
NS 2203	Paediatric Nursing 1	2	None
NS 2204	Basic Epidemiology	1	None
NS 2205	Trends in Nursing	1	None

3000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
NS 3101	Adult Nursing 3	5	AH1202, NS1201, NS2105
NS 3102	Nursing Theory and Practice 5	4	NS2202
NS 3103	Paediatric Nursing 2	2	None
NS 3104	Maternity Nursing 1 (Theory)	2	AH1103, AH1202
NS 3105	Nutrition and Dietetics	2	None
NS 3106	Research Methodology 1	1	None

3000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
NS 3201	Adult Nursing 4	4	AH1202, NS1201, NS2105
NS 3202	Nursing Theory and Practice 6	2	NS3102
NS 3203	Paediatric Nursing 3	2	None
NS 3204	Maternity Nursing 1 (Clinical) †	2	NS3104
NS 3205	Nursing in Trauma Management 1 (Clinical) ††	2	AH1102, AH1103, AH1202
NS 3206	Community Health Nursing	6	NS2203, NS3104

NS 3207	Research Methodology 2	1	NS3106

4000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
NS 4101	Nursing Informatics	1	None
NS 4102	Emergency and Disaster Nursing	2	AH1102, AH1202, NS2101
NS 4103	Paediatric Nursing 4	3	None
NS 4104	Maternity Nursing 2 (Theory)	2	NS3104
NS 4105	Teaching and Learning in Nursing	2	None
NS 4106	Psychiatric Nursing and Mental Health	5	None

4000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
NS 4201	Leadership and Management in Nursing	3	None
NS 4202	Critical Care Nursing	3	AH1102, AH1103, AH1202, NS2105
NS 4203	Research Project	6	NS3207
NS 4204	Maternity Nursing 2 (Clinical) †	2	NS4104
NS 4205	Nursing in Trauma Management 2 (Clinical) ††	2	AH1102, AH1103, AH1202
NS 4206	Operation Theatre Nursing †††	3	NS2101
NS 4207	Palliative Care Nursing †††	3	None
NS 4208	Neonatal Nursing †††	3	None
NS 4209	Gerontological Nursing †††	3	NS3101

(*) Non-GPA courses

† Compulsory courses for female students.

†† Compulsory courses for male students.

††† Optional Courses : The student shall register in and complete only one optional course out of four optional courses; Operation Theatre Nursing (NS4206), Palliative Care Nursing (4207), Neonatal Nursing (4208), Gerontological Nursing (NS4209).

Synopses of Course Contents

1000 Level

NS 1101 Foundation to Nursing Practice (1 Credit)

Introduction to core values of the nursing profession, History and evaluation of nursing, Roles and fundamental responsibilities of a nurse, Principles and standards of nursing practice, Nursing organizations, Nursing and non-nursing theories, Communication, Introduction to nursing process, Patient-centered approach in nursing care, Health education, Nurse's role in infection prevention and control.
Course assessment: In-course 30%, End semester 70%

NS 1102 Nursing Theory and Practice 1 (3 Credits)

Basic nursing skills related to patient comfort and hygiene, Patient positioning, Lifting and moving, Introduction to health assessment, Helping in religious activities.
Course assessment: In-course 30%, End semester 70%

NS 1103 Sociology and Anthropology (1 Credit)

Introduction to sociology, Application of sociology in health and nursing, Fundamental concepts, Social groups, Culture, Social control, Social problems, Anthropology.
Course assessment: In-course 30%, End semester 70%

NS 1201 Human Anatomy for Nurses (3 Credits)

Surface anatomy and surface marking of clinically relevant structures, Structure of the anterior body wall and its clinical importance, Applied anatomy of body systems, Gametogenesis, Fertilization and early embryonic development, Twinning, Causes of congenital malformations, Anatomy related to common clinical procedures.
Course assessment: In-course 35%, End semester 65%

NS 1202 Nursing Theory and Practice 2 (5 Credits)

Application of nursing process, Documentation and reporting, Comprehensive health assessment, Vital signs assessment, Specimen collection, Patient admission, discharge and transfer, Asepsis and infection control, Food serving, First-aid and bandaging, Oral medication administration.

Course assessment: In-course 30%, End semester 70%

NS 1203 Pharmacology 1 (1 Credit)

Introduction to pharmacology, Drug regulation and approval, Drug classes and schedules, Nurses' responsibility in drug administration and dosage calculation, Pharmacokinetics and pharmacodynamics, Drug considerations across the lifespan, Legal and ethical considerations, Safe handling of medications.
Course assessment: In-course 30%, End semester 70%

2000 Level

NS 2101 Adult Nursing 1 (4 Credits)

Introduction to perioperative nursing, Review of anaesthesia, Introduction to management of patients with cardiovascular diseases/ disorders and respiratory diseases/ disorders, Introduction to pain and pain management strategies, Nursing process for a patient with pain.
Course assessment: In-course 30%, End semester 70%

NS 2102 Nursing Theory and Practice 3 (4 Credits)

Nursing procedures pertaining to the care of the patient with the respiratory and cardiovascular disorders.
Course assessment: In-course 30%, End semester 70%

NS 2103 Pharmacology 2 (3 Credits)

Drugs used for patients with disorders of the nervous system, cardiovascular system, respiratory system, urinary system, female and male reproductive system and gastro-intestinal system, Drugs used for patients with endocrinal and metabolic disorders, communicable diseases and malignant conditions, Managing drug interactions.
Course assessment: In-course 30%, End semester 70%

NS 2104 Ethics in Nursing (1 Credit)

Introduction to ethics, Theories and approaches, Value formation and value conflict, Principles of ethics, Ethical concepts for nursing practice, Standards for ethical behavior, Ethical dilemmas in nursing, Ethical analysis and decision making in nursing practice, Ethical reasoning, Ethical responsibilities of the nurse, Applying ethics to nursing practice, Legal aspects and implications in nursing practice.

Course assessment: In-course 30%, End semester 70%

NS 2105 Pathology for Nurses (2 Credits)

Systemic Pathology of major organ systems, Clinical pathology: analysis of blood, Cerebro-Spinal Fluid (CSF) analysis, examinations of other cavity fluids, urine analysis, faeces examination and semen analysis.
Course assessment: In-course 30%, End semester 70%

NS 2106 Microbiology for Nurses (1 Credit)

Importance and relevance of microbiology to nursing, Structure, classification, morphology and growth of microorganisms, Pathogenic organisms, Pathogenesis of a disease, Relevance of microbial features in pathogenesis involve in different systems, Diagnosis of infections, Collection and transportation of specimens for microbial diagnosis, Host defense mechanisms, Disease epidemiology, Emerging and re-emerging infections, Predisposing factors for antimicrobial resistance and their prevalence.
Course assessment: In-course 30%, End semester 70%

NS 2107 Communication Skills in Nursing (1 Credit)

Introduction to communication skills in Nursing, Basic concepts in communication, History taking, Effective communication for giving information, counselling and motivations interview, Communication skills in sensitive conversations, Communication skills for patient education, advocacy and public education, Communication skills for intra professional and inter-professional teamwork.
Course assessment: In-course 30%, End semester 70%

NS 2201 Adult Nursing 2 (5 Credits)

Introduction to management of patients with gastrointestinal diseases/ disorders, musculoskeletal diseases/ disorders and endocrine diseases/ disorders, Wound care.
Course assessment: In-course 30%, End semester 70%

NS 2202 Nursing Theory and Practice 4 (4 Credits)

Nursing procedures pertaining to care of patient with gastrointestinal, musculoskeletal and endocrine systems.
Course assessment: In-course 30%, End semester 70%

NS 2203 Pediatric Nursing 1 **(2 Credits)**

Introduction to child health nursing, Preventive pediatrics, Growth and development, Assessment of children, Illness and the child, Family of a child with special healthcare needs.
Course assessment: In-course 30%, End semester 70%

NS 2204 Basic Epidemiology **(1 Credit)**

Introduction and uses of Basic Epidemiology, Determinants of health and disease, Natural history of disease, levels of disease prevention, Health indicators, Association and causation of disease, Epidemiological triad, Dynamics of disease transmission, General measures of communicable disease control, Epidemiological approach in the study of diseases, Different types of data collection methods and their validity and reliability, Concepts and steps in epidemiological investigations, Role of the nurses in meeting epidemics and emergency situations.
Course assessment: In-course 30%, End semester 70%

NS 2205 Trends in Nursing **(1 Credit)**

Nursing as a profession, Issues in nursing, Recent trends in nursing education, practice, and health care, Expanding role of the nurse, Role of the professional nursing organizations, Impact of nursing profession on the global health care system.
Course assessment: In-course 30%, End semester 70%

3000 Level

NS 3101 Adult Nursing 3 **(5 Credits)**

Introduction to management of patients with reproductive diseases/disorders and urinary diseases/disorders, Introduction to caring of geriatric clients, Introduction to management of patients with eye, ear, nose and throat diseases/ disorders.
Course assessment: In-course 30%, End semester 70%

NS 3102 Nursing Theory and Practice 5 **(4 Credits)**

Theory and skills pertaining to care of patients with neurological, genitourinary, otorhinolaryngology, dermatological and ophthalmic diseases, Assessment of a geriatric patient.
Course assessment: In-course 30%, End semester 70%

NS 3103 Peadiatric Nursing 2 **(2 Credits)**

Management of children with respiratory dysfunctions, gastrointestinal dysfunction, and cardiovascular dysfunction.
Course assessment: In-course 30%, End semester 70%

NS 3104 Maternity Nursing 1 (Theory) **(2 Credits)**

Introduction to national maternal healthcare system, Normal physiological and psychological changes during pregnancy, Signs and symptoms of pregnancy, Possible warning signs and symptoms of high risk pregnancy, Application of nursing process in providing antenatal care for low-risk and high risk pregnant women, Process of Labour and birth, Application of nursing process for a laboring woman, Puerperium, Psychological reactions to childbirth, Immediate newborn care, Breastfeeding.
Course assessment: In-course 30%, End semester 70%

NS 3105 Nutrition & Dietetics **(2 Credits)**

Introduction to nutrition, Energy, Nutritional status , Nutrition throughout the life cycle, Selection, storage, preparation and preservation of food , Introduction to diet therapy , Diet for patients with disorders of gastro-intestinal and cardiovascular systems, Diet for patients with metabolic disorders, Diet for patients with obesity and allergy.
Course assessment: In-course 30%, End semester 70%

NS 3106 Research Methodology 1 **(1 Credit)**

Introduction to research in health sciences, Evidenced Based Practice in nursing, Scientific method and the research process, Ethics in health research, Scientific information, Finding a good research problem/question, Hypotheses, Populations and samples, Choice of measurements, Basic research designs in health sciences.
Course assessment: In-course 30%, End semester 70%

NS 3201 Adult Nursing 4 **(4 Credits)**

Introduction to management of patient with neurological, dermatological and oncological conditions, Introduction to death and dying and the role of the nurse.
Course assessment: In-course 30%, End semester 70%

NS 3202 Nursing Theory and Practice 6 (2 Credits)

Theory and skills related to patients with dermatological and oncologic conditions, Care of elderly patients and patients with chronic conditions, Death and dying care, Assisting with advanced procedures, Head injury observation, Assessment of CVP.

Course assessment: In-course 30%, End semester 70%

NS 3203 Pediatric Nursing 3 (2 Credits)

Introduction to management of child with diseases/disorders of the blood forming organs, genito urinary system, endocrine system and nervous system.

Course assessment: In-course 30%, End semester 70%

NS 3204 Maternity Nursing 1 (Clinical) (2 Credits)

Application of nursing process to low risk and high risk antepartum care, Labor and delivery, Observe and assist normal vaginal delivery, Postpartum care, Immediate newborn care.

Course assessment: In-course 30%, End semester 70%

NS 3205 Nursing in Trauma Management 1 (Clinical) (2 Credits)

Epidemiology, causes, classification and prevention of trauma, Pathology and pathophysiology of trauma, Pre-hospital care and triage, History taking in trauma patients , Review of first aid , Initial management of trauma victims, Secondary survey management, Nursing management of regional injuries, Prevention and management of infection in trauma victims.

Course assessment: In-course 30%, End semester 70%

NS 3206 Community Health Nursing (6 Credits)

Concepts and dimensions of the community health nursing, Functioning of the public health services in Sri Lanka, Special campaigns, Special units related to public health and their functions, National health programmes, Disease surveillance system and role of different public health personal, Family and the use of nursing process in the community, Care of families with specific healthcare needs, Approaches to family health, Concepts of health and health promotion, Health and environment, Identification of public health problems.

Course assessment: In-course 30%, End semester 70%

NS 3207 Research Methodology 2 (1 Credit)

Introduction to quantitative and qualitative research approaches, Research designs in health sciences and their applications, Methods/tools of data collection in quantitative and qualitative approaches, Designing questionnaires, Introduction to scientific writing, Citation management and references, Develop a research proposal.
Course assessment: In-course 30%, End semester 70%

4000 Level

NS 4101 Nursing Informatics (1 Credit)

Concepts related to nursing informatics, Introduction to nursing informatics, Review of technical competencies for nursing informatics, Applications of informatics in nursing practice, Ethical issues in nursing informatics; Nursing informatics as a career.
Course assessment: In-course 30%, End semester 70%

NS 4102 Emergency and Disaster Nursing (2 Credits)

Introduction to emergency and disaster nursing, Principles and concepts of emergency and disaster nursing, Organization of men, material and facilities for emergency care, Emergency resuscitation, Emergency care of life threatening physiological conditions, emergency care of cardiac dysrhythmias and infarction, patients with poisoning, venomous snake bites, altered thermoregulation and management of patients with anaphylaxis, Types of disasters, Disaster preparedness, Pre-hospital care, Triage, Training of disaster volunteers, Management of disaster victims and their families and the role of the nurse in the above.
Course assessment: In-course 30%, End semester 70%

NS 4103 Pediatric Nursing 4 (3 Credits)

Introduction to management of child with integumentary dysfunction, skeletal problems, communicable diseases, eye, ear and communication disorders and nutritional disorders.
Course assessment: In-course 30%, End semester 70%

NS 4104 Maternity Nursing 2 (Theory) (2 Credits)

Management of patients with deviations from normal labour, Intrapartum obstetrical emergencies, Postpartum complications, Newborn process of adaptation, Physical assessment of newborn, Nursing management during neonatal period, Management of newborns with complications, Postpartum contraception/family planning and birth spacing.

Course assessment: In-course 30%, End semester 70%

NS 4105 Teaching and Learning in Nursing (2 Credits)

Theories and principles of education, Philosophy of education, Principles and methods of teaching, Educative process, Learning process, Teaching-learning methods, Evaluation, Principles and concepts of guidance and counselling in learning, Basics of curriculum development, Organizational pattern of the nursing curriculum.

Course assessment: In-course 30%, End semester 70%

NS 4106 Psychiatric Nursing and Mental Health (5 Credits)

Introduction to psychiatric and mental health nursing, Nursing management of patients with mental health problems, Therapeutic modalities in mental health, Application of nursing process in specific mental health conditions.

Course assessment: In-course 30%, End semester 70%

NS 4201 Leadership and Management in Nursing (3 Credits)

Overview of nursing leadership and management, Management of health care and nursing, Quality and outcome management in health care and nursing, Resource management in health service system, Communication, Group dynamics, Conflict resolution, Management of change.

Course assessment: In-course 30%, End semester 70%

NS 4202 Critical Care Nursing (3 Credits)

Introduction to critical care nursing, Airway management, Management of critical conditions of respiratory system, cardiovascular system and central nervous system, Sedation and pain relief in ICU, ICU management of fluid and metabolic disorders, immune, haematological and endocrinological disorders and disorders of gastrointestinal system. Critical care management of obstetric emergencies, Communication skills in the ICU, End of life care, Infection control in ICU.

Course assessment: In-course 30%, End semester 70%

NS 4203 Research project (6 Credits)

Students are required to carry out a research project (which was designed at the third year second semester under Research Methods 2 course) using appropriate methodology under supervision in an area relevant to nursing; Students in the final research project report should outline the research background, aims and objectives of the study, justification for the study, ethical considerations, and detail research methods and measurements, data analysis, and should discuss the findings and report a conclusion.

Course assessment: In-course 20%, End semester 80%

NS 4204 Maternity Nursing 2 (Clinical) (2 Credits)

Application of nursing process to care for women with deviations from normal labour, Care for women with intraparum obstetric emergencies, Care of women with complicated postpartum recovery, Newborn physical examination, Care of newborns with complications, Counseling and health education on postpartum contraception and family planning.

Course assessment: In-course 40%, End semester 60%

NS 4205 Nursing in Trauma Management 2 (Clinical) (2 Credits)

Basic management of eye, ENT and musculoskeletal trauma, Management of shock, burn injuries, suffocation, choking and drowning, obstetric trauma and genito-urinary trauma, Wound care, Rehabilitation of trauma victims.

Course assessment: In-course 30%, End semester 70%

NS 4206 Operation Theatre Nursing (3 Credits)

Principles and practice of perioperative nursing, Current context and future challenges impacting upon perioperative service delivery, Operating theatre set up, Infection prevention and control, Application of nursing process for surgical patients in the pre-operative, intraoperative and post-operative phases, Integration of evidence based practice into care delivery, Role of the perioperative nurse in the multidisciplinary team approach, Legal and ethical issues, Application of policies, guidelines and standards to enhance and support practice, Patient safety and risk management strategies in operating theaters.

Course assessment: In-course 40%, End semester 60%

NS 4207 Palliative Care Nursing (3 Credits)

Introduction of palliative care, hospice care and end-of-life care, Principles of palliative care, Communication skills, Life-threatening illnesses, Nursing care for controlling symptoms for palliative care patients, Pain management, Quality of life, Nursing procedures in palliative care, Ethical issues, Optimization of care, Grief and bereavement, Self-care, Palliative care in a variety of clinical practice settings.
Course assessment: In-course 40%, End semester 60%

NS 4208 Neonatal Nursing (3 Credits)

Newborn adjustment to extra uterine life, Resuscitation of newborn, Newborn physical assessment, Birth injuries, Dermatologic problems in the newborn, Newborn screening for diseases, Health problems of newborns, Essential newborn care, Nursing care of sick term newborn, Care of preterm newborn, Assessment of growth and development.
Course assessment: In-course 30%, End semester 70%

NS 4209 Gerontological Nursing (3 Credits)

Health and Wellness in an Aging Society, Review of physiological and functional changes in older people, Review of the assessment of older people, Nursing considerations for older people, Wellness and function in older people, Multisystem alteration and living with chronic medical problems, Individual and family psychodynamics, Alterations in mental processing, Caring older people at the end-of-life, Future challenges for gerontological nursing.
Course assessment: In-course 30%, End semester 70%

DEPARTMENT OF PHARMACY

Vision

To be a recognized leader in pharmacy education, research, practice and innovation in the national and international context

Mission

To provide nationally and internationally accredited undergraduate and postgraduate pharmacy education and training by establishing an innovative research network, a strategic education plan and dissemination of knowledge to produce competent pharmacy professionals encompassed with good humane and leadership qualities

Graduate Profile

Bachelor of Pharmacy Honours graduates should:

1. Demonstrate comprehenisve knowledge on chemical, physical and biological sciences appropriate to professional practice in community, hospital, clinical pharmacy settings, pharmaceutical industries and research institutes. Also, they should be able to provide knowledge on legal and administrative aspects codes of practice, ethics and development of the profession of pharmacy.

2. Practice as a professional pharmacist in hospital, community pharmacy settings or function effectively as a pharmacy professional in a variety of pharmacy related professional settings including drug manufacturing, regulation, distribution, marketing, research and pharmacy education.

3. Apply knowledge of basic scientific principles to resolve practical problems, create new inventions, collect, analyze and interpret data.

4. Communicate effectively in writing and speaking with the community, patients, co-workers, pharmacy institutes and stakeholders and disseminate knowledge and information through advanced research, scientific writing, and presentations.

5. Exploit different state of the art information technology tools for the benefit of the pharmacy profession and stake holders.

6. Be assertive, proactive, compassionate and posses interpersonal skills to interact with co-workers & other diverse societies, and show effective leadership qualities to lead the pharmacy profession to meet national and global requirements and latest advancements in technology.

7. Be committed to the pharmacy profession, uphold professional norms and ethics and uplift the pharmaceutical care process.

8. Be a lifelong learner and be involved in continuing professional development and professional conduct.

Department of Pharmacy

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Ms. E.A.D.S. Gunapala
Lecturer (Probationary)

Course Units Offered by the Department

Bachelor of Pharmacy Honours

1000 LEVEL – SEMESTER I

Course code	Course Title	No. of Credits	Prerequisites
EL 1101	Basic English for Allied Health Sciences 1	3*	None
AH 1101	Information Technology	2*	None
AH 1102	Human Physiology 1	3	None
AH 1103	Basic Human Anatomy	3	None
AH 1105	Basic Biochemistry	3	None
PM 1101	Social Pharmacy	1	None
PM 1102	Physical Pharmacy 1	3	None
PM 1103	Pharmaceutical Mathematics	2	None

1000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 1202	Basic English for Allied Health Sciences 2	3*	None
AH 1201	General Pathology	3	None
AH 1202	Human Physiology 2	3	None
AH 1203	Basic Statistics	2	None
PM 1201	Organic Chemistry	3	None
PM 1202	Physical Pharmacy 2	3	None
PM 1203	General Microbiology	2	None
PM 1204	Therapeutic Principles	2	None

2000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 2103	Intermediate English for Allied Health Sciences 1	3*	None
PM 2101	Pharmaceutical Analysis 1	3	None
PM 2102	Pharmaceutical Dosage Forms 1	3	None
PM 2103	Pharmaceutical Microbiology	3	PM1203

PM 2104	Pharmacology 1	3	PM1204
PM 2105	Community Pharmacy Practice	3	None
PM 2106	Introduction to Health Humanities	1*	None

2000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 2204	Intermediate English for Allied Health Sciences 2	3*	None
PM 2201	Pharmaceutical Analysis 2	3	PM 2101
PM 2202	Pharmaceutical Dosage Forms 2	3	None
PM 2203	Pharmacognosy 1	3	None
PM 2204	Pharmacology 2	3	PM 1204, PM 2104
PM 2205	Hospital Pharmacy 1	2	None
PM 2206	Pharmacy Law and Ethics 1	2	None

3000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
PM 3101	Pharmaceutical Technology 1	3	PM 1102
PM 3102	Pharmaceutical Dosage Forms 3	4	None
PM 3103	Pharmacognosy 2	3	None
PM 3104	Pharmacology 3	3	PM 2104, PM 2204
PM 3105	Hospital Pharmacy 2	2	None
PM 3106	Pharmacy Law and Ethics 2	2	None

3000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
PM 3201	Pharmaceutical Technology 2	2	PM 1102
PM 3202	Novel Therapeutic Dosage Forms	2	None
PM 3203	Pharmaceutical Biotechnology	3	None
PM 3204	Pharmacology 4	3	PM2104, PM2204, PM3104
PM 3205	Hospital Pharmacy Practice	4	PM 2205, PM3105
PM 3206	Pharmaceutical Management	2	None

PM 3207	Research Project	8 †	None

4000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
PM 4101	Medicinal Chemistry 1	3	PM 1201
PM 4102	Clinical Pharmacy 1	3	PM 2104, PM 2204
PM 4103	Pharmacoeconomics	2	None
PM 4104	Biostatistics	1	AH 1203
PM^	Optional Course	2	None

4000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
PM 4201	Medicinal Chemistry 2	3	PM 1201
PM 4202	Clinical Pharmacy 2	3	PM 2104, PM 2204
PM 4203	Bio-pharmaceutics	3	PM 1204

Optional Courses (Only one course can be selected)

PM 4106	Pharmaceutical Marketing Management	2	PM 3206
PM 4107	Drug Development and Regulations	2	None
PM 4108	Advanced Pharmacy Practice	2	None

*Non-GPA (Courses not included in GPA calculations)
†Research project (PM 4105) will start in 4000 Level Semester I and will continue throughout the 4000 Level. The evaluation procedure will be concluded, and results will be released at the end of 4000 Level Semester II.

Prerequisite: In order to follow the higher-level courses, the student shall complete the lower level courses. Completion of a prerequisite means to have followed the course and fulfilled the eligibility criteria to sit for the end-semester examination for that course.

Synopses of Course Contents

1000 LEVEL

PM 1101 Social Pharmacy (1 Credit)
Introduction to healthcare delivery systems, Introduction to the pharmacy profession & pharmacist's role in the healthcare team, Medicines & culture, Psychology applied to pharmacy.
Course assessment: In-course 40%, End semester 60%

PM 1102 Physical Pharmacy I (3 Credits)
Introduction to physical pharmacy, Solutions: solubilization, ionization, colligative properties, Concentration expressions, Rheology, Concepts of dispersed systems: colloids, fundamentals of coarse dispersions.
Course assessment: In-course 40%, End semester 60%

PM 1103 Pharmaceutical Mathematics (2 Credits)
Algebra: sets & functions, solution of linear & quadratic equations, binomial theorem, Trigonometry, Coordinate geometry, Calculus, Mathematics in pharmaceutical applications.
Course assessment: In-course 30%, End semester 70%

PM 1201 Organic Chemistry (3 Credits)
Structure and properties of organic compounds, Reaction mechanisms, Functional group analysis, IUPAC nomenclature, Stereochemistry.
Course assessment: In-course 40%, End semester 60%

PM 1202 Physical Pharmacy 2 (3 Credits)
Solids & crystallization, Physicochemical processes: precipitation, distillation, complexation & miscellaneous processes, Thermodynamics, Fundamentals of kinetics, Physical interactions of pharmaceutical drugs.
Course assessment: In-course 40%, End semester 60%

PM 1203 General Microbiology (2 Credits)

Introduction to microbiology/taxonomy & classification of microbes, Microbial culturing & identification, Role of microbes in causing disease & spoilage of pharmaceuticals, Principles of sterilization, Aseptic techniques & their applications in pharmacy.

Course assessment: In-course 40%, End semester 60%

PM 1204 Therapeutic Principles (2 Credits)

Introduction to pharmacokinetics principles & processes: absorption, distribution, bio-transformation & excretion, Drug information & pharmacovigilance, Safety of medicines.

Course assessment: In-course 30%, End semester 70%

2000 LEVEL

PM 2101 Pharmaceutical Analysis 1 (3 Credits)

Quality control & quality assessment of analytical data, Good laboratory practice (GLP), Basic laboratory instruments, Data recording & error analysis, Titrimetric analysis, Gravimetric analysis, Atomic & molecular spectroscopy.

Course assessment: In-course 40%, End semester 60%

PM 2102 Pharmaceutical Dosage Forms 1 (3 Credits)

Introduction to different types of dosage forms, Pharmaceutical pharmacopeias & relevant reference material, Principles of dosage form design, Formulation additives, Basic pharmaceutical calculations, Solutions, Suspensions, Emulsions.

Course assessment: In-course 40%, End semester 60%

PM 2103 Pharmaceutical Microbiology (3 Credits)

Contamination of pharmaceutical preparations: growth & multiplication, consequences, screening & control of contamination, Preservation of pharmaceutical preparations, Microbial standards, Pharmaceutical applications of microbiological techniques.

Course assessment: In-course 40%, End semester 60%

PM 2104 Pharmacology 1 **(3 Credits)**

General introduction to pharmacology, Pharmacokinetics, Pharmacodynamics, Autacoids, Drugs affecting gastrointestinal functions, Pharmacology of autonomic nervous system, Respiratory Pharmacology.
Course assessment: In-course 40%, End semester 60%

PM 2105 Community Pharmacy Practice **(3 Credits)**

Introduction to concepts & ethics, Communication skills, Prescription handling process, Education & counselling & patient compliance, Community pharmacy management, Maintaining records, Herbal & complementary medicines, Health promotion, Good pharmacy practice, Community pharmacy training.
Course assessment: In-course 40%, End semester 60%

PM 2106 Introduction to Health Humanities **(1 Credit)**

Illness, disability, pain, birth & death in literature, Role of creative arts in healing, Patient interviews to understand illness experiences.
Course assessment: In-course 100%

PM 2201 Pharmaceutical Analysis 2 **(3 Credits)**

Introduction to chromatographic techniques, Thin layer chromatography, High performance liquid chromatography, Gas chromatography, Mass spectrometry & hyphenated techniques, NMR, Electroanalytical methods.
Course assessment: In-course 40%, End semester 60%

PM 2202 Pharmaceutical Dosage Forms 2 **(3 Credits)**

Powders & granules, Tablet dosage forms, Capsules, Semisolid products, Topical & transdermal drug delivery systems, Ophthalmic, nasal & otic preparations.
Course assessment: In-course 40%, End semester 60%

PM 2203 Pharmacognosy 1 **(3 Credits)**

Introduction to pharmacognosy, Plant-based natural products, Plant secondary metabolites & biosynthesis, Minerals & application, Natural products of animal origin, Marine pharmacognosy, Extraction & isolation techniques of natural products.
Course assessment: In-course 40%, End semester 60%

PM 2204 Pharmacology 2 (3 Credits)

Pharmacology of cardiovascular, respiratory, renal & endocrine systems, Introduction to antimicrobials.
Course assessment: In-course 40%, End semester 60%

PM 2205 Hospital Pharmacy 1 (2 Credits)

Health care system in Sri Lanka, Organization & structure of a hospital pharmacy, Pharmacy & therapeutics committee, Essential medicines, Pharmaceutical supply management: procurement, distribution & inventory control, Storage & dispensing of pharmaceuticals, Non-drug supply management.
Course assessment: In-course 40%, End semester 60%

PM 2206 Pharmacy Law and Ethics 1 (2 Credits)

Introduction to pharmaceutical legislation, Selected legislation relevant for the practice of pharmacy, Ethics for pharmacists & ethics in animal research, Associations related to pharmacy, Patients' rights & responsibilities, International organizations in drug regulation, Pharmaceutical/professional negligence, Intellectual property rights.
Course assessment: In-course 40%, End semester 60%

3000 LEVEL

PM 3101 Pharmaceutical Technology 1 (3 Credits)

Unit operation processes, Industrial hazards & safety precautions, Concepts of mass & heat transfer, Techniques of drying, mixing, milling, filtration, centrifugation, evaporation, distillation, particle size separation, compression & compaction.
Course assessment: In-course 40%, End semester 60%

PM 3102 Pharmaceutical Dosage Forms 3 (4 Credits)

Parenteral products, Aerosols & sprays, Suppositories & pessaries, Surgical products, Medical prosthetics & organ replacement materials, Blood products, Nutraceuticals, Radiopharmaceuticals, Cosmeceuticals, Packaging of pharmaceutical products.
Course assessment: In-course 40%, End semester 60%

PM 3103 Pharmacognosy 2 (3 Credits)

Plant-based drug discovery, Structure elucidation of natural products, Processing of herbal drugs, Crude drugs & adulterants, Bioassay techniques, Herbal formulations: product development, evaluation, quality control, stability testing & regulatory issues.

Course assessment: In-course 40%, End semester 60%

PM 3104 Pharmacology 3 (3 Credits)

Drugs for infectious diseases & parasites, Disinfectants & antiseptics, Vaccines & biological products, Immunopharmacology, Onco-pharmacology.

Course assessment: In-course 40%, End semester 60%

PM 3105 Hospital Pharmacy 2 (2 Credits)

Drug information centre, Poison control centre, Cytotoxic drugs, Radiopharmaceuticals, Aseptic dispensing, Safe use of medicines, Accident & emergency pharmacy, Hospital manufacturing of bulk & sterile products, Re-packaging, Applications of IT in hospital pharmacy.

Course assessment: In-course 40%, End semester 60%

PM 3106 Pharmacy Law and Ethics 2 (2 Credits)

National Medicines Regulatory Authority (NMRA) Act & regulations, Veterinary Ordinance & regulations pertaining to veterinary products, Ayurveda Act, Review of registration documents.

Course assessment: In-course 40%, End semester60%

PM 3201 Pharmaceutical Technology 2 (2 Credits)

Pre-formulation studies, Fundamentals of machines/equipment used in pharmaceutical manufacture, Verification & calibration of instruments, Plant design/pilot plant scale-up, Packaging material technology, Production management, Evaluation & regulation.

Course assessment: In-course 40%, End semester60%

PM 3202 Novel Therapeutic Dosage Forms (2 Credits)

Introduction to novel drug delivery, Controlled release drug delivery systems, Drug carriers, Transdermal drug delivery systems, Targeted drug delivery systems, Drug immobilization techniques, Nanoparticles, Biosimilars, Novel biological products/proteomics.

Course assessment: In-course 30%, End semester 70%

PM 3203 Pharmaceutical Biotechnology (3 Credits)

Introduction to molecular biology & biotechnology, DNA & recombinant DNA technology, Bio process technology, Enzyme biotechnology, Medical biotechnology, Animal biotechnology, Plant biotechnology, Advances in pharmaceutical biotechnology.

Course assessment: In-course 40%, End semester 60%

PM 3204 Pharmacology 4 (3 Credits)

CNS Pharmacology: anaesthetics, analgesics, antiepileptics, anti-Parkinson drugs, psycholeptics, psychoanaleptics, Drug treatment of gout, Drug treatment of anaemia, Sports medicine, Drugs used in ear, eye & skin, Introduction to toxicology, Antidotes.

Course assessment: In-course 40%, End semester 60%

PM 3205 Hospital Pharmacy Practice (4 Credits)

Hospital pharmacy training on organization & structure, medical supplies and supplying processes, inpatient pharmacy, outpatient pharmacy, safe use of medicines & pharmaceutical waste disposal, specialized areas in pharmacy practice, applications of IT in hospital pharmacy.

Course assessment: In-course 50%, End semester 50%

PM 3206 Pharmaceutical Management (2 Credits)

Introduction to management, Basic functions in pharmaceutical management: planning, organizing, leading, & controlling, Organizational behavior, Human resource management, Managerial ethics, Financial and budgetary control systems, Production management, Pharmaceutical supply chain management, Quality management.

Course assessment: In-course 30%, End semester 70%

PM 3207 Research Project (8 Credits)

Ethics in research, Conduct literature search, Write hypotheses/problem statement, Design research project under supervision, Collect, analyse, interpret & summarize data, Scientific report writing & presentation, Citation management & referencing.

Course assessment: In-course 90%, End semester 10%

4000 LEVEL

PM 4101 Medicinal Chemistry 1 (3 Credits)

Drug discovery approaches, Modern drug discovery pipeline, Drug targets, ADMET concerns in drug development, Diversity & molecular space of drugs, Synthesis of pharmaceuticals, Traditional methods of lead optimization (SAR), SAR & synthesis of selected drug classes.

Course assessment: In-course 40%, End semester 60%

PM 4102 Clinical Pharmacy 1 (3 Credits)

Introduction to clinical pharmacy, Patient & laboratory data analysis, Activities of a clinical pharmacist: ward round participation, patient counseling, Presentation of cases, Drug & poison information, Pharmacovigilance, Pharmacotherapeutics & disease management, Clinical pharmacokinetics.

Course assessment: In-course 40%, End semester 60%

PM 4103 Pharmacoeconomics (2 Credits)

Health care context & introduction, Fundamental concepts: costs & cost analysis, outcomes, perspectives, discounting, Types of pharmacoeoconomic analyses, Decision analysis, Patient-reported outcomes (PROs), Evaluation of pharmacy services using pharmacoeconomics.

Course assessment: In-course 40%, End semester 60%

PM 4104 Biostatistics (1 Credit)

Introduction to R, Understanding basic statistical concepts using a real data set, Data visualization, Statistical analysis using R: parametric and non-parametric hypothesis testing, diagnostic tests, simple linear regression, selection of the best test, Sample size calculations.

Course assessment: In-course 40%, End semester 60%

PM4201 Medicinal Chemistry 2 **(3 Credits)**

QSAR based lead optimization techniques: Hansch analysis, Craig plots, Topliss trees, Molecular descriptors, Linear & non-linear 2D QSAR, 3D QSAR (COMFA), Protein structures in drug discovery, SAR & synthesis of selected drug classes.

Course assessment: In-course 40%, End semester 60%

PM 4202 Clinical Pharmacy 2 **(3 Credits)**

Rational use of drugs, Calculation of loading & maintenance doses of drugs, Safe intravenous therapy & hazards of IV therapy, Clinical toxicology, Vaccines & immunization schedules, Pharmacotherapeutics & disease management, Research design & clinical trials.

Course assessment: In-course 40%, End semester 60%

PM 4203 Bio-pharmaceutics **(3 Credits)**

Pharmacokinetic parameters from plasma & urine data, Clearance concepts, Cumulative urinary drug excretion curve, Bioavailability & bioequivalence, In-vivo bioavailability testing, Application of computer software in designing AUC & calculation of pharmacokinetic parameters.

Course assessment: In-course 30%, End semester 70%

Optional Courses

PM 4106 Pharmaceutical Marketing Management **(2 Credits)**

Concepts in marketing, Situational analysis, Consumer analysis, Product strategy, Pricing strategy, Promotional strategy, Sales management, Business ethics, Corporate social responsibility, Corporate shared value, Customer relationship management.

Course assessment: In-course 30%, End semester 70%

PM 4107 Drug Development and Regulations **(2 Credits)**

Introduction, Successful strategies in drug research & development, Preclinical drug development, Clinical trials, FDA drug review, FDA post-market drug safety monitoring, Drug registration in Sri Lanka.

Course assessment: In-course 40%, End semester 60%

PM 4108 Advanced Pharmacy Practice (2 Credits)

Introduction to pharmacoepidemiology, Antimicrobial stewardship, Advanced therapeutics & personalized medicine, Utilization of drug literature, Online pharmaceutical care services & globalization, Development of standard operating procedures (SOPs) for pharmacy practice, Pharmacist's role in general practice.

Course assessment: In-course 50%, End semester 50%

DEPARTMENT OF PHYSIOTHERAPY

Vision

To be a centre of eminence in physiotherapy education with global recognition

Mission

To prepare physiotherapy graduates with entry-level physiotherapy skills, competencies, professional and ethical behaviors. As lifelong learners and reflective practitioners, they will serve the health care needs of the community while contributing to the advancement of the profession of physiotherapy

Graduate profile

Graduates of the Bachelor of Science Honours in Physiotherapy programme shall possess these attributes; physiotherapy professional, collaborator, communicator, manager, leader, reflective practitioner, innovator, and lifelong learner and on the successful completion of the degree, the graduate will be able to:

1. Apply the knowledge of biological, physical, clinical sciences, and psychosocial behaviors for clinical decision making.
2. Perform physiotherapy assessments using evidence-informed tests and measures to identify impairments, activity limitations and participatory restrictions of clients with various disorders.
3. Communicate effectively in oral and written formats, to facilitate the physiotherapists' roles in education, consultation, patient management, and developing professional relationships.
4. Critically evaluate and utilize professional literature to become evidence-based practitioners.
5. Design and carry out a research project to contribute to the knowledge base of the profession.
6. Demonstrate professional behavior consistent with ethical and legal standards of the physiotherapy profession.
7. Incorporate leadership skills and behaviors in multidisciplinary health care teams.
8. Display the skills of a reflective practitioner and employ continuous professional and personal growth to advance professional competence and the profession.

Department of Physiotherapy

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Course Units Offered by the Department

Bachelor of Science Honours in Physiotherapy

1000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 1101	Basic English for Allied Health Sciences 1	3*	None
AH 1101	Information Technology	2*	None
AH 1102	Human Physiology 1	3	None
AH 1103	Basic Human Anatomy	3	None
AH 1104	Introduction to Psychology	2	None
AH 1106	Basic Biochemistry	2	None
PT 1101	Physiotherapy Basics of Care and Wellness	1	None
PT 1102	Physiotherapy as a Profession	1	None
PT 1103	Sociology and Anthropology	1	None

1000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 1202	Basic English for Allied Health Sciences 2	3*	None
AH 1201	General Pathology	3	None
AH 1202	Human Physiology II	3	None
PT 1201	Applied Anatomy – I	3	None
PT 1202	General Microbiology	1	None
PT 1203	Exercise Science	2	None
PT 1204	Physiotherapy Clinical Skills	2	None

2000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 2103	Intermediate English for Allied Health Sciences 1	3*	None
PT 2101	Applied Anatomy – II	3	None
PT 2102	Biomechanics and Kinesiology I	2	None
PT 2103	Physiotherapy Assessment and Procedures	2	None
PT 2104	Therapeutic Exercise	3	None
PT 2105	Nutrition	1	None
PT 2106	Pathophysiology for Physiotherapy I	3	None
PT 2107	Physiotherapy Professional Communication	1	None
PT 2108	Clinical Practice I	1	None

2000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 2204	Intermediate English for Allied Health Sciences 2	3*	None
PT 2201	Biomechanics and Kinesiology II	2	None
PT 2202	Physiotherapy Modalities	3	None
PT 2203	Pathophysiology for Physiotherapy II	2	None
PT 2204	Neuropathology for Rehabilitation	3	None
PT 2205	General Medical and Surgical Conditions for Physiotherapists	3	None
PT 2206	Pharmacology for Physiotherapy	2	None
PT 2207	Women's Health Physiotherapy	1	None

3000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
PT 3101	Musculoskeletal Physiotherapy - Upper Extremities	3	None
PT 3102	Neurological Physiotherapy I	3	None
PT 3103	Cardiopulmonary Physiotherapy	4	None

PT 3104	Research Project in Physiotherapy - Part I: Research Design and Methodology	2	None
PT 3105	Evidence-Based Practice in Physiotherapy	2	None
PT 3106	Biostatistics	2	None
PT 3107	Clinical Practice II	2	None

3000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
PT 3201	Musculoskeletal Physiotherapy - Lower Extremities	3	None
PT 3202	Musculoskeletal Physiotherapy - Axial System	2	None
PT 3203	Neurological Physiotherapy II	3	None
PT 3204	Paediatric Physiotherapy	4	None
PT 3205	Assistive Technology and Environmental Adaptations	1	None
PT 3206	Community-Based Rehabilitation	2	None

4000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
PT 4101	Geriatric Physiotherapy	3	None
PT 4102	Physiotherapy in Sports	2	None
PT 4103	Diagnostic Tests and Imaging for Physiotherapists	1	None
PT 4104	Differential Diagnosis for Physiotherapists	1	None
PT 4105	Patient Education and Prevention	1	None
PT 4106	Physiotherapy Professional Practice	1	None
PT 4107	Clinical Practice in Medical and Surgical conditions for Physiotherapists	3	None
PT 4108	Clinical Practice in Paediatric Physiotherapy	3	None
PT 4109	Research Project in Physiotherapy - Part II: Proposal formulation	2	None

4000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
PT 4201	Research Project in Physiotherapy - Part III: Thesis Formulation and Presentation	4	None
PT 4202	Clinical Practice in Critical care Physiotherapy	2	None
PT 4203	Clinical Practice in Cardiopulmonary Physiotherapy	3	None
PT 4204	Clinical Practice in Musculoskeletal Physiotherapy	5	None
PT 4205	Clinical Practice in Neurological Physiotherapy	4	None

(*) Non-GPA courses

Total credits for Research Project in Physiotherapy – 8 credits (It comprises of the modules Research Project in Physiotherapy - Part I: PT 3104, Research Project in Physiotherapy - Part II: PT 3207, Research Project in Physiotherapy - Part III: PT 4201)

Synopses of Course Contents

Level 1000

PT 1101 Physiotherapy Basics of Care and Wellness (1 Credit)

Infection control; Body mechanics - Axes and planes, Fundamental positions, Derived positions; Basics of first aid - Medical emergencies, Cardiopulmonary resuscitation; Documentation overview - Medical abbreviations, Medical terminology, Basics of documentation (record keeping, maintain day-to-day documents); The eight dimensions of wellness – Types, Self-assessments of wellness, Goal setting of dimensions of wellness, Behavioral change theories, Relationship between wellness and leading causes of death; Lifestyle choices - Healthy lifestyles (PA, quit smoking, reduce alcohol consumption, good eating habits).
Course Assessment: In-course 40%, End-semester 60%

PT 1102 Physiotherapy as a Profession (1 Credit)

History of physiotherapy in Sri Lanka, Legislation pertaining to health care system focusing physiotherapy profession and its development, Type of physiotherapy practice settings; World Health Organization - The International Classification of Functioning, Disability and Health model (WHO ICF Model); Ethical principles (Code of Ethics) of World Confederation of Physical Therapy (WCPT), CSP and SLSP and cultural considerations; Standards of practice- Accountability, Altruism, Compassion / Caring, Cultural competence, Ethical behavior, Integrity, Personal / Professional development, Professional duty, Social responsibility and advocacy, Teamwork, Current Physiotherapy practice issues.
Course Assessment: In-course 40%, End-semester 60%

PT 1103 Sociology and Anthropology (1 Credit)

Introduction to Sociology, Social aspects of health and illness, Fundamental concepts, Social groups, Culture, Social control, Social problems, Anthropology.
Course Assessment: In-course 30%, End-semester 70%

PT 1201 Applied Anatomy – I (3 Credits)

Core, back and spine - Osteology, Joints, Muscles, Attachments, Innervations, Movements, Spine curvatures, Surface anatomy, Applied anatomy, Radiological anatomy, Functions, Clinical relevance; Upper limb (In relation to pectoral, scapular, arm, forearm and hand regions) – Osteology, Joints, Muscles, Attachments, Innervations,

Movements, Blood supply and Lymphatic drainage, Surface anatomy, Applied anatomy, Radiological anatomy, Grip and functions of hand, palmar arches, Clinical relevance; Lower limb (In relation to gluteal, thigh, leg, ankle and foot regions) – Osteology, Joints, Muscles, Attachments, Innervations, Movements, Foot arches, Blood supply and Lymphatic drainage, Surface anatomy, Applied anatomy, Radiological anatomy, Functions of lower limb; Gait and weight bearing, Clinical relevance.
Course Assessment: In-course 40%, End-semester 60%

PT 1202 General Microbiology (1 Credit)

Introduction to Microbiology, Classification of microorganisms, Sterilization, Disinfection and Handling of infected material, Mode of transmission of diseases, Hospital acquired infections, Introduction to bacterial, viral and fungal diseases, Basic concepts of immunology.
Course Assessment: In-course 20%, End-semester 80%

PT 1203 Exercise Science (2 Credits)

Introduction - Basic definitions and terminology; Types of exercises - Aerobic exercise (cardiorespiratory and muscular endurance), Resistance exercise, Flexibility and stretching; Exercise physiology - Basic energy metabolism, Energy pathways , Oxygen uptake and lactate threshold, Energy expenditure with excise intensity and duration; Response to exercise and physical activity - Cardiorespiratory adaptation, Musculoskeletal adaptation, Metabolic adaptation, Hormonal response, Immune response; Exercise is medicine - Physical Activity as a Vital Sign, Benefits of exercise, Impact of physical activity and exercise on various diseases; Recommendations for exercise and physical activity - Recommendation from childhood to adulthood; Physical fitness assessment of healthy adult; Exercise prescription; Exercise in extreme environment.
Course Assessment: In-course 40%, End-semester 60%

PT 1204 Physiotherapy Clinical Skills (2 Credits)

Documentation, Patient history, Positioning and draping, Bed mobility, Transfers, Gait training, Wheelchair components and prescription, Assistive devices, Case studies.
Course Assessment: In-course 40%, End-semester 60%

Level 2000

PT 2101 Applied Anatomy – II (3 Credits)

Neuroanatomy- General arrangement of the nervous system (central/peripheral), Name the components of central nervous system-(brain/spinal cord) and peripheral nervous system (somatic – sensory and motor / autonomic -sympathetic and parasympathetic), Cranial nerves, Spinal nerves; Head and neck (Skull, mandible, cervical vertebrae), Joints of head and neck, Movements of head (atlanto-occipital, atlanto-axial joint, cervical spine), Attachments, Innervations, Movements of facial muscles and muscles of neck, Surface anatomy, Applied anatomy, Radiological anatomy of head and neck; Thorax - Arrangement of organs in thoracic cavity, Thoracic wall; Skeletal framework (Thoracic vertebrae, ribs), Attachments, innervations, Movements of skeletal muscles in thoracic region, Diaphragm; Respiratory movements, Mediastinum, Heart; Cardiac orientation, Cardiac chambers, Coronary vasculature, Surface anatomy of thorax, Identify component parts of heart, Lungs and brain.; Abdomen - Arrangement of abdominal viscera, Surface topography; Attachments, Innervations, movements of abdominal muscles, Changes in intra-abdominal pressure, Surface anatomy of abdominal region.; Pelvis and perineum -pelvis, Skeletal muscles in pelvic wall; Attachments, Innervations, Movements, Arrangement of pelvic organs (Male, female), Surface anatomy of pelvic region.

Course Assessment: In-course 40%, End-semester 60%

PT 2102 Biomechanics and Kinesiology I (2 Credits)

Introduction, Biomechanical laws and movement, Forces and moments acting on the body, Joint structure and function, Muscle biomechanics, Biomechanics and kinesiology of shoulder / elbow & forearm / wrist & hand, Posture, Introduction to basic techniques and instrumentation used in assessment of human posture movement.

Course Assessment: In-course 40%, End-semester 60%

PT 2103 Physiotherapy Assessment and Procedures (2 Credits)

Introduction to physiotherapy assessment techniques (History taking and interview during the assessment).; Physiotherapy examination and evaluation of upper limb, lower limb and axial skeleton - Range of motion, planes, and axes (Motion barriers, bony, capsular, soft, pain, end feels), Principles and practice of goniometry, Principles and practice of manual muscle testing, Other alternatives to assess muscle strength (1RM, Multiple RM, Equipment based strength testing, Functional performance tests. Limb length and limb girth measurements, Chest expansion measurements, Neuro dynamic tests; Documentation and Case studies.

Course Assessment: In-course 40%, End-semester 60%

PT 2104 Therapeutic Exercises (3 Credits)

Foundational concepts - Therapeutic exercise: Impact on physical function, Classification of health status, Functioning, and disability–Evolution of models and related terminology, Principles of comprehensive patient management, Strategies for effective exercise and task-specific instruction.; Principles of range of motion (ROM), Types, Indications, Goals, and Limitations of ROM, Precautions and contraindications to ROM exercises, Principles and procedures for applying ROM techniques for upper extremity, Lower extremity, Cervical spine and lumbar spine, Self-assisted ROM, Reciprocal exercise unit, ROM through functional patterns.; Principles of stretching - Definition of terms associated with mobility and stretching, Indications, Contraindications, and Potential outcomes of stretching exercises, Properties of soft tissue: Response to immobilization and stretch, Determinants and types of stretching exercises, Procedural guidelines for application of stretching interventions, Precautions for stretching, Adjuncts to stretching interventions, Manual stretching, Mechanical stretching, PNF stretching, Neural stretching.; Principles of resistance exercise - Types, Indications, Goals, Limitations, Precautions and contraindications of resistance exercises Principles and procedures for applying resistance exercises techniques, Plyometric, Proprioceptive neuromuscular facilitation.; Exercise recommendations - Prescription and progression.; Principles of aerobic training, aerobic exercise prescription/progression.; Principles of balance training.; Principles of aquatic therapy - Definition of aquatic exercise, Goals, Indications, Precautions and contraindications, Properties of water , Aquatic temperature and Therapeutic exercise pools for aquatic exercise, Special equipment for aquatic exercise pool, Care and safety, Stretching exercises, Strengthening exercises, Aerobic conditioning.; Principles of intervention: Fatigue, Pain and other signs.

Course Assessment: In-course 40%, End-semester 60%

PT 2105 Nutrition (1 Credit)

Role of nutrition in Physiotherapy: Prevention of diseases, Recovery from injury or illness and physical function.; Dietary guidelines: Recommended dietary guidelines on: components, i.e., protein, fat, fruit, vegetables, carbohydrates; Requirements for different age groups, Comparison of self to recommendations and self-monitoring and assessment with an intake diary, Nutrition for weight control:- Trends in diets in Sri Lanka.; Case studies.

Course Assessment: In-course 40%, End-semester 60%

PT 2106 Pathophysiology for Physiotherapy I (3 Credits)

Introduction, Wound and ulcers, Infection, Stress, Temperature, Fluid, Electrolyte, pH balance, Etiology, Preventive measures and medical management of following disease states and disorders – Oncology, Integumentary Disorders (Leprosy, Psoriasis, Pigmentary anomalies, Dermatitis, Infections, Alopecia, Acne), Osteoarthritis, Rheumatological disorders, Hematologic disorders, Immune disorders, Lymphatic disorders, Musculoskeletal disorders (Structure and function of bone / cartilage / tendon / muscle; Bone, Joint and muscle pathologies).
Course Assessment: In-course 40%, End-semester 60%

PT 2107 Physiotherapy Professional Communication (1 Credit)

Communication in healthcare - Direct and indirect pathways through which communication influences health and well-being, Methods to enhance communication, Barriers to communication, Aims of medical communication, Communication style and personality.; Form of communication (Verbal, non-verbal, written, e-based) - Communication with patients, Communication with colleagues, and other health care professionals, Listening behaviors.; Strategies to enhance one-to-one communication with patients.; Small group communication.; Methods of communication: Guidelines for formal professional presentations.; Writing professional electronic messages and consultation letters, Role play.
Course Assessment: In-course 30%, End-semester 70%

PT 2108 Clinical Practice I (1 Credit)

Clinical observation in various practice settings, Discuss and reflection on: Practice settings, Roles of health care providers, Perspective of the patient / family members, Manifestations of disease, Application of basic physiotherapy clinical skills.
Course Assessment: In-course 40%, End-semester 60%

PT 2201 Biomechanics and Kinesiology II (2 Credits)

Biomechanics and kinesiology of hip, knee complex, foot & ankle, Chest wall & thorax, Spine and temporomandibular joint; Gait - Basic determinants of gait, Gait deviations and pathological gait.
Course Assessment: In-course 40%, End-semester 60%

PT 2202 Physiotherapy Modalities (3 Credits)

Science of therapeutic modalities - Fundamentals of electromagnetic modalities (Radiant energy, Electromagnetic

radiations, Wavelength and frequency, Laws governing the effects of electromagnetic radiations, The application of the electromagnetic spectrum to therapeutic modalities).; Principals of electricity - Static electricity and Current electricity (Charge, Polarity and creation of electric force fields, Voltage, Conductors and insulators), Current, Ohm's Law: Resistance, Capacitance, and Impedance, Currents and waveforms, Valves, Transformers, Ionization, Magnetism, Thermionic valves, Semi-conductor devices, AC and DC meters.; Overview of therapeutic modalities and applications - Thermal modalities, Hydrotherapy, Electrical modalities, Electromagnetic modalities, Mechanical modalities.; Inflammatory process, and pain control.; Physiological effects, therapeutic effects, clinical indications, contraindications and precautions, instrumentation and safety measures, clinical applications of following therapeutic modalities - Cold therapies, Thermotherapy, Therapeutic ultrasound and phonophoresis, Hydrotherapy / whirl pool bath and contrast bath, Electrical modalities, Electro-diagnostic tests, Electromagnetic radiation, Mechanical modalities.; Case studies and evidence-based practice and therapeutic modalities.
Course Assessment: In-course 40%, End-semester 60%

PT 2203 Pathophysiology for Physiotherapy II (2 Credits)

Etiology, preventive measures and medical management of following disease states and disorders:-Diseases of ear / nose / throat and ophthalmology; Endocrine system disorders, Nutritional disorders; Genetics/congenital disorders; Hepatic, biliary, and splenic system disorders; Gastrointestinal system (Reflex esophagitis, Achalasia cardia, Carcinoma of the oesophagus, GI bleeding, Peptic ulcer diseases, Carcinoma of the stomach, Pancreatitis, Malabsorption syndrome, Inflammatory bowel diseases, Peritonitis, Infection of alimentary tract); Urinary and renal system disorders; Pain and headache; Psychiatric disorders (Schizophrenia, Depression, Bipolar Disorder, Hysterical conversion syndrome, Phobias, Anxiety, Obsessive compulsive disorder, Eating disorders, Sleep disorders), Poisoning.
Course Assessment: In-course 40%, End-semester 60%

PT 2204 Neuropathology for Rehabilitation (3 Credits)

Basic Neuroanatomy - Structures and functions of the nervous system including cerebrum, cerebellum, spinal cord, peripheral nervous system, synaptic transmission and nerve plexus, regeneration and repair of nervous system.; Basic neurophysiology - Somatosensory system, age related sensory changes, sensory examination, common sensory impairments.; Overview and examination of motor functions, reflex integrity, activity based task analysis - Bladder and bowel control.; Examination of higher functions, Upper motor and lower motor nerve lesions.; Introduction to electromyography and nerve conduction velocity tests.; Neuroplasticity, Motor learning and

recovery.; Overview and physiology of the vestibular System, Vestibular system dysfunction and interventions.; Etiology, Pathophysiology, Clinical manifestation, Investigations of common neurological diseases and disorders affecting the cerebrum, cerebellum, spinal cord and peripheral nervous system/ neuro degenerative disorders/ neurobehavioral disorders/ disorders of neuromuscular junction/ muscle disorders/ polyneuropathies and multisystem lesions.; Common neuro surgeries: Introduction, Indication and complications.
Course Assessment: In-course 40%, End-semester 60%

PT 2205 General Medical and Surgical Conditions for Physiotherapists (3 Credits)

Introduction to surgical procedures - Types of anesthesia and its effects on the patients, Types of incisions (definitions, indications), Clips ligatures and sutures, General surgical procedures – Radiologic diagnostic procedures, Endoscopy, Biopsy, Overview of drainage systems and tubes used in surgery.; Definition, indication, incision, physiological changes, complications and overview of medical management of following common surgeries : Cholecystectomy, Colectomy, Colostomy, Ileostomy, Gastrectomy, Appendicectomy, Hernias, Mastectomy, Nephrectomy, Prostatectomy, Laparoscopic surgeries, Transplant surgeries (kidney and liver).; Oncology - Types, Stages of cancer, Surgical procedures involved in the management of cancer, Medical management / palliative care, Physiotherapy interventions in the management of medical, surgical oncology.; Pre- and post-operative physiotherapy assessment and management for general surgeries.; Role of physiotherapist in wound care - Anatomy and physiology review of integumentary system, lymphatic system and peripheral circulation, Influencing factors, Wounds types, Wound physiology and healing, Norton scale and Braden scale.; Characteristics, complications, risk factors, overview of medical/surgical management, and physiotherapy assessment and management of common medical conditions including vascular, lymphatic and integumentary system disorders.; Diabetes and Hansen's disease considerations - Impact of diabetes on the development of neuropathic wounds, lower extremity amputation and prevention, Monofilament testing.; Burns – Types, Causes, Staging, Acute and chronic management, Examination, Physiotherapy treatment and rehabilitation.
Course Assessment: In-course 30%, End-semester 70%

PT 2206 Pharmacology for Physiotherapy (2 Credits)

General Pharmacology – Introduction, regulation and approval, drug classes and schedules, Administration, Pharmacokinetics, Pharmacodynamics.; Systemic pharmacology - Pain and analgesics, NSAIDs and opioids, Corticosteroids, Skeletal muscle relaxants, Cardiovascular pharmacology (Anticoagulants, Anti-hypertensives, Anti-hyperlipidemic drugs), Respiratory pharmacology, Anti-epileptic drugs, General and local anesthetics, Drug

interaction, Antimicrobial therapy, Drugs use in ICU setup, Drugs for psychiatric disorders.
Course Assessment: In-course 20%, End-semester 80%

PT 2207 Women's Health Physiotherapy (1 Credit)

Definition, etiology, pathophysiology, clinical features, signs and symptoms, complications, investigation, medical and physiotherapy management of following obstetrics and gynaecological conditions:-Gynaecological conditions :- Introduction to pelvic floor anatomy and physiology, Menstrual cycle and its disorders, Menopause, Hormonal disorders of females, Subfertility, Cancer, Disorders of pelvic pain, Pelvic floor dysfunction, Common surgical procedures used in gynaecology.; Obstetrics conditions :- Anatomical and physiological changes in pregnancy, prenatal complications, Labour, Pain relief in labour, Surgical procedures involving childbirth, Puerperium and postnatal care, Lactation, Methods of birth control, Pregnancy-induced pathologies, Exercise prescription/ interventions for pregnancy.
Course Assessment: In-course 40%, End-semester 60%

Level 3000

PT 3101 Musculoskeletal Physiotherapy - Upper Extremities (3 Credits)

Anatomy review (Joint examination), Assessment (History, Systems review, Tests and measures including their psychometric properties, Evaluation, Differential diagnosis, Prognosis, Interventions, Re-examination, Documentation).; Interventions of musculoskeletal conditions will be based on evidence, psychometric properties, the disablement model and it will include: Conservative management (Therapeutic exercises and other interventions in rehabilitation, joint mobilization, soft tissue techniques and therapeutic modalities as an adjunct to treatment), Surgery, Post-surgical management and rehabilitation.; Joint Mobilization – Principles, Indications, Effects, Methods, Grades, Procedure, Precautions, Contraindications.; Soft tissue techniques: Principles, Indications, Effects, Methods, Grades, Procedure, Precautions, Contraindications.; Application of joint mobilization and soft tissue techniques to the following regions:- Scapulothoracic joint, Shoulder, Elbow, Forearm, Wrist and Hand.; Etiology, Risk factors, Pathology, Complications, Stages of healing, Joint examination, Intervention and return to activity for conditions of the: Scapulothoracic joint, Shoulder, Elbow, Forearm, Wrist and Hand, Deformities of the Upper Limb, Fractures of the scapulothoracic joint and upper limb.; Case studies.
Course Assessment: In-course 20%, End-semester 80%

PT 3102 Neurological Physiotherapy I (3 Credits)

Overview of neuromuscular physiotherapy, Physiotherapy assessment for neurological conditions, Introduction to functioning and disability models.; Neuromuscular tests and measures – Higher functions, Cranial nerves, Motor functions, Reflexes, Coordination, Balance, Posture and gait .; Common interventions to address - Functional mobility, Bed mobility, Transfers, Locomotor, Balance and neuroplasticity (Motor learning integration to practice).; Risk factors, co-morbidities, presentation, acute medical management, physiotherapy assessment, physiotherapy management and evidence based practice of, - Cerebrovascular accident, Head Injury, Meningitis and encephalitis and Brain Tumors.; Case studies.

Course Assessment: In-course 20%, End-semester 80%

PT 3103 Cardiopulmonary Physiotherapy (4 Credits)

Review of anatomy, Exercise physiology, Overview of cardiopulmonary practice.; Assessment of the patient with cardiopulmonary dysfunction and documentations: Medical and physiotherapy assessment, Monitoring and interpretation of test, measures and investigations used in cardiopulmonary assessment.; Physiotherapy techniques used in cardiopulmonary dysfunctions.; Medical and physiotherapy management and outcomes of problems and impairments related to respiratory dysfunctions - Dyspnoea, Decreased exercise tolerance, Impaired airway clearance, Airflow limitation, Respiratory muscle dysfunction, Reduced lung volume, Impaired gas exchange, Abnormal breathing pattern, Pain, Musculoskeletal dysfunction.; Acute medical and surgical conditions and its' clinical implication for physical therapy for respiratory conditions, Common cardio-thoracic surgical conditions, Tracheostomy & ICD tube management, Cardiac conditions , Multisystem dysfunction.; Pulmonary rehabilitation and cardiac rehabilitation.; Oxygen delivery systems and oxygen as a medication (Mechanical support and non-invasive ventilation), The effects of positioning and mobilization on oxygen transport.; Intensive care units - Lines/tubes/drains, Equipment and mobilization, Physiotherapy assessment and management in ICU, Hyperinflation techniques and suctioning, Physiotherapist role in weaning from ventilators, Pediatric and neonatal ICU physiotherapy management.; Interpersonal aspects of care: communication, Counselling and health promotion and education.

Course Assessment: In-course 20%, End-semester 80%

PT 3104 Research Project in Physiotherapy - Part I: Research Design and Methodolog(2 Credits)

Overview of research methodology, The selection of a research design (Types of research designs- quantitative methods, qualitative methods and mixed methods), Review of the literature (gap spotting and developing research questions, and developing hypothesis and research objectives), Research questions and hypothesis, Sampling methods and sample size estimation, Data collection tools and methods, Data analysis plan (quantitative analysis and qualitative analysis), Clinical trials and randomized controlled trials (RCT), Ethical considerations, Research funding, Referencing (styles and tools), Publication of a research work.

Course Assessment: In-course 40%, End-semester 60%

PT 3105 Evidence - Based Practice in Physiotherapy (2 Credits)

Introduction to evidence - based practice, Practice of evidence-based physiotherapy, Clinical decision-making and importance of evidence - based practice in physiotherapy, Developing a clinical question, Sources of information of evidence, Quality of evidence and level of evidence, Finding the evidence (Search strategy and database search), Critical appraisal of evidence, Introduction to systematic review and meta - analysis, Steps and writing protocols for systematic review, Clinical guidelines as a resource for evidence - based physiotherapy, Implementation of Evidence - based practice, Evaluation of evidence-based practice (Assessing patient outcome, Assessing the process of care).

Course Assessment: In-course 40%, End-semester 60%

PT 3106 Biostatistics (2 Credits)

Overview to statistics, Data presentation and preliminary analysis (Types of numerical data, descriptive analysis, using tables), Numerical summary measures, confidence interval, probability and hypothesis testing, Introduction to SPSS.; Statistical techniques to compare groups (One sample test, T-tests, One-way analysis of variance (ANOVA), Two-way between-groups ANOVA, Introduction to multivariate analysis of variance (MANOVA) and Analysis of covariance (ANCOVA)).; Statistical techniques to explore relationships among variables (Correlation, partial correlation, introduction to linear regression, multiple regression, logistic regression and factor analysis).; Non-parametric statistics (Chi-square, Mann-Whitney U Test, Wilcoxon Signed Rank Test, Kruskal-Wallis Test, Friedman Test, Spearman's Rank Order Correlation).

Course Assessment: In-course 40%, End-semester 60%

PT 3107 Clinical Practice II (2 Credits)

Clinical observation in various practice settings; Discuss and reflection on: Practice settings, Manifestations of disease, Role of physiotherapy in various disease conditions, Application of basic physiotherapy clinical skills including physiotherapy assessment techniques, exercises, therapeutic modalities (identifying the appropriate therapeutic modalities and parameters, planning the treatment and application).
Course Assessment: In-course 40%, End-semester 60%

PT 3201 Musculoskeletal Physiotherapy - Lower Extremities (3 Credits)

Anatomy review (Joint examination),; Application of joint mobilization to the following regions: Pelvis, Hip, Knee, Foot and ankle.; Application of soft tissue techniques to the following regions: Pelvis, Hip, Knee, Foot and ankle.; Etiology, risk factors, pathology, complications, stages of healing, joint examination, intervention and return to activity for conditions of the following: Pelvis and hip, Knee, Foot and ankle, Deformities of the lower limb, Fractures of the pelvis and lower limb.; Orthotics, Prostheses and amputation – Overview, Examination, Handling skills, Post amputation rehabilitation, Orthotic including- shoes, shoe insert, lower limb orthotics, spinal orthotics, upper limb orthotics, ace wrapping as a temporary orthotic, Prosthetics including- donning / doffing, skin inspection, wearing schedule, wear and tear, prosthetic types, prosthetic components.; Case studies.
Course Assessment: In-course 20%, End-semester 80%

PT 3202 Musculoskeletal Physiotherapy - Axial System (2 Credits)

Anatomy review, Spine examination.; Application of joint mobilization to the following regions: Spine, Sacroiliac joint, Temporomandibular joint.; Application of soft tissue techniques to the following regions: Spine, Sacroiliac joint, Temporomandibular joint.; Etiology, risk factors, pathology, complications, stages of healing, joint examination, intervention and return to activity for conditions of the following : Spine and sacroiliac joint, Temporomandibular joint, Deformities of the spine, Fractures of the spine.; Case studies.
Course Assessment: In-course 20%, End -semester 80%

PT 3203 Neurological Physiotherapy II (3 Credits)

Physiotherapy assessment, special tests, specific physiotherapy interventions and evidence based practice to neuromuscular conditions including but not limited to: Multiple sclerosis, Amyotrophic lateral sclerosis, Cerebellar dysfunctions, Movement disorders, Cranial nerve disorders, Spinal cord injury, Tumors and inflammation, Bladder and bowel dysfunctions, Polyneuropathies, Differentiation of central and peripheral vestibular dysfunction,

Parkinson's disease, Alzheimer's disease, Disorders of muscle and neuromuscular junction, Hereditary motor sensory neuropathy, Peripheral neuropathies and peripheral nerve injuries, Reflex sympathetic dystrophy, Neural tension disorders.
Course Assessment: In-course 20%, End-semester 80%

PT 3204 Paediatric Physiotherapy (4 Credits)

Overview of paediatric physiotherapy, Service delivery settings (early intervention, hospital based, outpatient, inpatient rehabilitation, school settings, family-centered care), Overview of interactions and handling, Delivery models and approaches.; Normal growth and development of child (Motor, mental, language and social), Developmental milestones, Reflexes.; Child and nutrition - Nutritional requirements, Malnutrition syndrome, Nutritional deficiencies in children - Clinical presentation, Complications and management in brief, Childhood obesity.; Clinical Presentation, Complications, Overview of medical management, Prevention, Physiotherapy assessment and management in common paediatric conditions: Neurological and neuromuscular conditions, Musculoskeletal conditions, Respiratory disorders, Cardiac conditions, Haemophilia, Common infectious diseases and Child psychiatric conditions.; Applying motor control principles and sensory integration to paediatric physiotherapy.; Paediatric orthotics.; Paediatric emergencies (Basic life support, common paediatric emergencies).; Paediatric surgical conditions - Types, complications, management, Pre and Post-operative physiotherapy assessment and management in common paediatric surgeries.; Physiotherapy in Intensive neonatological care.
Course Assessment: In-course 20%, End-semester 80%

PT 3205 Assistive Technology and Environmental Adaptations (1 Credit)

Role of physiotherapist in environmental assessments, assistive technology, and adaptive equipment.; Ergonomics – Sitting posture, Standing posture, Ergonomic analysis of workstations, Proposed recommendations.; Work injury prevention and management, Assistive technology and adaptive equipment - Assistive technology and adaptive equipment for ADLs, Types of assistive technology devices (TADs) including but not limited to environmental control, powered mobility, and augmentative communication, TADs – historical and current perspective, Roles and responsibilities of technology team, Assessment of clients, Environmental controls (telephones, monitoring systems).; Environmental accessibility adaptations at home, school, work, and community - Common terms, Purpose, Examination Strategies, Patient-home environment relationship, Exterior and interior accessibility, Workplace examination, Community access, Transportation options in community, Documentation, Funding and legislation if applicable.

Course Assessment: In-course 40%, End-semester 60%

PT 3206 Community-Based Rehabilitation (2 Credits)

Introduction to community-based rehabilitation, Principles of community-based rehabilitation, Disability - Medical and social models, CBR system in Sri Lanka - National CBR programme, Role of physiotherapy in CBR, Role of social workers / Role of government / Role of voluntary organizations in CBR, Planning and management of CBR programme, Mobile rehabilitation units, Vocational training in rehabilitation, Assessment and rehabilitation of people with disabilities (including pediatric disorders) in the community, CBR – Field visits, Clinical training.
Course Assessment: In-course 20%, End-semester 80%

Level 4000

PT 4101 Geriatric Physiotherapy (3 Credits)

Role of physiotherapist and older adults.; Introduction - Demographic trends, Graying of world, Life expectancies, Aging / immobility vs. activity / wellness, primary, secondary, tertiary prevention, Changes with aging.; Examination – History, Systems review using comprehensive geriatric assessment, Tests and measures including their psychometric properties.; Etiology, Risk factors, Pathology, Complications, Stages of healing, Examination and intervention of diseases associated with ageing in the following :- Musculoskeletal disorders, Neuromuscular and neurological disorders, Cardiopulmonary diseases.; Specific topics related to aging - The insensitive foot, Elder abuse and neglect, social problems related to ageing, Restraints, Balance and falls, Dementia, Delirium, Depression, NPH (Normal Pressure Hydrocephalus), Incontinence, Vision, Hearing and communication with aging, Geriatric syndrome, Sarcopenia, Frailty, Dysphagia, dizziness, fatigue, pain in older persons, Exercise consideration and prescription for older adults, Gait training.; Case Studies.
Course Assessment: In-course 30%, End-semester 70%

PT 4102 Physiotherapy in Sports (2 Credits)

Fundamental principles - Introduction to sports physiotherapy, Sports biomechanics - Biomechanics of common sports activities – Running, Jumping, Throwing.; Principles of sports injury prevention.; Introduction to common sports injuries - Clinical presentation, mechanism of injury and pathophysiology of acute and overuse sports injuries.; General principles of clinical assessment, Diagnosis, Medical management and physiotherapy management in sports injuries and prevention.; Warm up, Cool down and recovery strategies, Stretching.;

Physiotherapy interventions for sports injuries and athletic training, Exercise prescription and return to sports, Sports massage, Taping.; Sports injuries and management for regional problems (Overview of anatomy, physical examination, common injuries and management for : Head and neck, Shoulder, Elbow, Wrist and hand, Spine, Hip and pelvis, Knee, Foot and ankle).; Sports specific injuries and prevention (Running, Cricket, Football, Rugby, Racket sports).; Enhancing sport performance - Sports nutrition, Obesity and sports, Sports psychology/ motivation.; Considerations in specific populations in sports- Younger athletes (school level), Gender and sports, Disability and sports.; Practical sports medicine- Physical fitness and sports, Physical fitness assessment (ACSM), Screening the elite athlete, Role of a coach, Traveling with a sport team, Doping and banned substances, Ethics in sports, Management in sports.
Course Assessment: In-course 20%, End-semester 80%

PT 4103 Diagnostic tests and Imaging for Physiotherapists (1 Credit)

Principles of radiology, Role of physiotherapy in imaging and diagnostic tests, Role of imaging in clinical decision making, Types of imaging, Interpreting radiographic images related to physiotherapy (Common conditions in the fields of orthopaedic, neurology, cardiorespiratory and paediatrics), Electro diagnostic testing (Electromyography -EMG, Nerve conduction velocity -NCV), Other common tests related to physiotherapy.
Course Assessment: In-course 40%, End-semester 60%

PT 4104 Differential Diagnosis for Physiotherapists (1 Credit)

Overview of physiotherapy diagnosis and medical diagnosis, Examination, Documentation (of examination, of communication with physician and other health care providers, of education/explanation to patient).; Examine patients/clients by performing systems reviews that may include – Interview, inspection, screens, special tests in following areas: Cardiovascular /pulmonary system, Musculoskeletal system, Neuromuscular system, Integumentary system.; Communication, Emotional state, Cognition, Language and learning style.; Case studies and Clinical decision making.
Course Assessment: In-course 30%, End-semester 70%

PT 4105 Patient Education and Prevention (1 Credit)

Prevention (Wellness aging model, Illness, Injury, and Immobility - WAMI-3).; Role of the physiotherapist as an educator (Literacy, Developing patient education materials, Learning styles), Educational theories (Domains of learning – Cognitive / Psychomotor / Affective, Types of learner – Andragogy/Pedagogy), Behavioral change

theories and patient behaviors.; Immune system and stress- Mindfulness.; physiotherapy role in education and prevention in Cancer, Diabetes, Obesity, Addictive behaviors: Smoking, Alcohol, Drugs.; Health care disparities related to culture.; Adherence.
Course Assessment: In-course 40%, End-semester 60%

PT 4106 Physiotherapy Professional Practice (1 Credit)

Overview of physiotherapist in professional practice as a new graduate vs. a clinic manager / administrator.; Documentation / Charging for PT services – Reimbursement (Fiscal considerations).; Business practice essentials - Regulatory and/or legal requirements, Fraud, Abuse, Risk assessment and safety, Quality improvement, Corporate compliance, Leadership skills, Risk management, Marketing and public relations, SWOT analysis, Human resources, Organizational structures – flat vs. vertical, Marketing / Public relations, Policies that impact health and social care.; Preparing for job market (resume, interview), Transitioning from student to alumna, PT practice settings and management responsibilities, Validating resource needs.; Development of a business plan on a programmatic level, Feasibility, Health informatics, Marketing, Budgeting, Quality improvement, Evaluating effectiveness, Cost/benefit analysis.; Physiotherapy professional associations in Sri Lanka, Clinical internship discussion, Preparation for comprehensive barrier examination, Case studies, Life-long learning, Professional representation.
Course Assessment: In-course 30%, End-semester 70%

PT 4107 Clinical Practice in Medical and Surgical conditions for Physiotherapists (3 Credits)

Physiotherapy examination and interventions related to common medical, integumentary, vascular and lymphatic dysfunction including, (but not limited to): Lymphoedema, Edema, Vericose veins, Deep vein thrombosis, Arterial / venous insufficiency, Cellulitis, Psoriasis.; Physiotherapy examination and interventions in relation to Gynecological and obstetric conditions including : Disorders of pelvic pain (Pelvic pain, Dyspareunia, Vestibulitis, Vulvodynia), Pelvic floor dysfunction (Prolapse, Incontinence), Pregnancy-induced pathology (Diastasis Recti, Postural back pain, Symphysis pubis pain, Circulatory complications [Varicose veins, Edema, Deep vein thrombosis], Nerve compression syndromes, Joint laxity, Cramps), Exercise prescription/interventions for pregnancy, common surgical conditions used in gynecology.; Pre- and Post-surgical physiotherapy assessment and management for general surgeries.
Course Assessment: End-semester 100%

PT 4108 Clinical Practice in Paediatric Physiotherapy (3 Credits)

Physiotherapy assessment and management based on the current evidence for general paediatric conditions including : Neurological disorders (Cerebral palsy, Developmental delay, Spina bifida, Hydrocephalus), Down's syndrome, Neuromuscluar disorders (Spinal muscular atrophy, Poliomyelitis, Muscle disorders, Peripheral nerve disorders), Respiratory disorders in children, Orthopaedic conditions (Juvenile arthritis, Fractures, Scoliosis, Connective tissue disorders, Deformities - Congenital talipes equino varus / valgus, Congenital dislocation of hip, Flatfoot, Genu varum/ Genu valgum), Congenital heart diseases, Haemophilia, Child psychiatry, Paeditric Surgeries – Pre- and Post-operative physiotherapy management.

Course Assessment: End-semester 100%

PT 4109 Research Project in Physiotherapy - Part II: Proposal formulation (2 Credits)

Frequency measuring techniques in health and medicine, Introduction to research methods in health and medical sciences, Descriptive studies, Observational analytical studies. Experimental study designs, Introduction to errors in health / medical research, Validity of results of a research, Reliability of results of a research, Causation in clinical and epidemiological research, Data collection techniques.

Course Assessment: In-course 40%, End-semester 60%

PT 4201 Research Project in Physiotherapy - Part III: Thesis Formulation and Presentation (4 Credits)

Formulating a research question or testable hypothesis, study and analyze the data that has been collected, synthesize information based on the analyzed data, writing the research thesis, article to be published in a journal.

Course Assessment: In-course 40%, End-semester 60%

PT 4202 Clinical Practice in Critical care Physiotherapy (2 Credits)

Identification of common equipment used in the ICU - Patient monitoring equipment (bedside monitors, pulse oximeter, intracranial pressure monitor, ECG readings, BHT readings), Life support and emergency resuscitative equipment (Mechanical ventilators, Infusion pump, Defibrillator, MHI unit, Resuscitation bag/ mask, Intra-aortic balloon pump, Other equipment (IV catheters, Arterial lines, Pacemakers, Chest tubes, Airways, Endotracheal tubes, Tracheostomy tubes, Humidifiers, Suction catheters, Suction machines ,oxygen mask).; Physiotherapy assessment of ICU patients (Including Auscultation, bed side monitor, ventilator setting reading and adjustments).; Evaluation, Principles and techniques of physiotherapy management in ICU - Special consideration in application

of various manual therapy techniques during physiotherapy interventions, based on the current evidence (Manual hyperinflation, Suctioning (closed/ open), Manual / mechanical techniques of chest clearance, Limb physiotherapy, Positioning).; Infection control in ICU/ Wards.; Health care team roles in ICU.
Course Assessment: End-semester 100%

PT 4203 Clinical Practice Cardiopulmonary Physiotherapy (3 Credits)

Cardio - Respiratory assessment (Physiotherapy examination, auscultation, chest X-rays and imaging).; Physiotherapy management in cardiac and respiratory conditions including: Obstructive pulmonary diseases (Bronchial Asthma, Bronchiectasis, Cystic fibrosis, Bronchopulmonary dysplasia, Chronic obstructive pulmonary disease), Restrictive pulmonary diseases (Interstitial pulmonary fibrosis, Pneumonia, Tuberculosis, Asbestosis, Atelectasis and tumors), Pleural disease (Pleural effusion, Empyema, Pneumothorax, Hydropneumothorax, Haemothorax), Lung abscess, Lung tumors, Respiratory failure, Pulmonary edema, Pulmonary embolism, Inadequate or abnormal pulmonary development (Bronchopulmonary dysplasia), Chest wall stiffness associated with extrapulmonary disease (scleroderma, ankylosing spondylitis), Postural deformities (scoliosis, kyphosis), Ventilatory muscle weakness of neuropathic or myopathic origin.; Management of tracheostomy, ICD tubes, Pre- and post-operative physiotherapy in thoracic surgeries (Lobectomy, Pneumonectomy, Segmental resection, wedge resection, Pleurectomy, Decortication).; Pre- and post-operative physiotherapy in cardiac surgeries (Coronary artery bypass grafting, Valve repair (open and closed surgeries), Valve replacement, Surgeries on the great vessels, Cardiac transplantation, Intra-aortic balloon counter pulsation, Pre- and post-operative physiotherapy in vascular surgeries.; Cardiac rehabilitation and Pulmonary rehabilitation.
Course Assessment: End-semester 100%

PT 4204 Clinical Practice in Musculoskeletal Physiotherapy (5 Credits)

Physiotherapy examination and interventions for musculoskeletal disorders including : Fractures and dislocations, Deformities in upper and lower extremities and spine, Soft tissue injuries, Regional musculoskeletal conditions (Shoulder, Elbow, Wrist and hand, Spine, Hip, Knee, Ankle and foot), Inflammatory and degenerative conditions (Osteoarthritis, Septic arthritis, Rheumatoid arthritis, Ankylosing spondylitis, Cervical spondylosis, Juvenile chronic arthritis, Reiter's disease, Psoriatic arthritis), Other diseases of bones and joints (Bone tumors, Osteomyelitis, Skeletal Tuberculosis, Periostitis), Amputation, Sport injuries, Pre- and post-surgical rehabilitation for orthopaedic surgeries including arthroplasty (Shoulder, TKR, THR).
Course Assessment: End-semester 100%

PT 4205 Clinical Practice in Neurological Physiotherapy (4 Credits)

Physiotherapy examination and management for brain and spinal cord disorders including: Cerebro-vascular accident, Meningitis, Encephalitis, Head injury, Brain tumors, Multiple sclerosis, Motor neuron diseases, Cerebellar ataxia, Friedreich's ataxia, Sensory ataxia, Spinal muscular atrophies, Movement disorders, Parkinson's disease, Traumatic spinal cord injury (Cervical, Thoracic, Lumbar, Sacral), Non - traumatic spinal cord injury, Transeverse myelitis, Tuberculosis, Spine.; Physiotherapy examination and management for nerve plexus/ roots / peripheral nerve disorders including; GBS, Brachial plexus injury, Lumbosacral plexus lesions, Thoracic outlet syndrome, Phrenic and intercostals nerve lesions , Bell's palsy, Musculocutaneous nerve palsy, Radial nerve palsy, Ulnar nerve palsy, Median nerve palsy, Axillary nerve palsy, Obturator nerve palsy, Femoral nerve palsy, Pudendal nerve palsy, Common peroneal nerve palsy, Tibial nerve palsy.; Pre and Post-surgical physiotherapy management in neurosurgeries including; Spinal disc herniation, spinal stenosis, Hydrocephalus, Head injuries (brain hemorrhages, skull fractures, etc.), Spinal cord injuries, Traumatic injuries of peripheral nerves, Tumors of the Spine.

Course Assessment: End-semester 100%

DEPARTMENT OF
RADIOGRAPHY/RADIOTHERAPY

Vision

To be a globally recognized premier institute providing degree programmes in Radiography and Radiotherapy.

Mission

To provide expertise in Radiography and Radiotherapy by dissemination of knowledge with the integration of comprehensive clinical training and research.

Graduate profile

1. **Intellectually curious learner:** The graduate continuously learns and advances his/her knowledge with evidence-based practice and innovations in the field for optimized health care delivery.

2. **Fully competent health professional:** The graduate is competent in all the skills andknowledge necessary to perform the radiographic procedures providing excellent support to the health care team.

3. **Resilient health professional:** The graduate is highly adaptable to challenging environments and eminently capable of maintaining professional conduct.

4. **Collaborative team player:** The graduate collaborates excellently and has a thoroughunderstanding of the role and responsibilities within the health care team, and advances his/her knowledge through research and innovations while working in multidisciplinary research groups.

5. **Accountable health professional:** The graduate is capable of performing radiographic procedures accurately in accordance with the standards established by local and international authorities to provide the best patient care while maintaining the optimum radiation protection.

6. **Sensible health professional:** The graduate is very attentive, concerned, caring, mindful and possesses superior moral qualities.

Department of Radiography/Radiotherapy

Academic Staff

Phone: 081-2065783

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Head of the Department
Senior Lecturer

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Senior Lecturer

Dr. M.L. Jayatilake
Senior Lecturer

Dr. M.A.J.C. Marasinghe
Senior Lecturer

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Mr. L. Thasanthan
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Ms. I.L.U. Chandrasiri
Senior Lecturer

Ms. D.G.S.R. Karunarathna
Lecturer

Mr. C.C.D. Kulathilake
Lecturer(Probationary)

Mr. G. K. Dharmaratne
Lecturer(Probationary)

Mr. L. R. S. Liyanage
Lecturer(Probationary)

Course Units Offered by the Department

Bachelor of Science Honours in Radiography

1000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 1101	Basic English for Allied Health Sciences 1	3*	None
AH 1101	Information Technology	2*	None
AH 1103	Basic Human Anatomy	3	None
AH 1104	Introduction to Psychology	2	None
AH 1106	Basic Biochemistry	2	None
RA 1101	Human Physiology	2	None
RA 1103	General Physics	2	None
RA 1104	Mathematics - I	2	None
RA 1105	Introduction to Electronics and Instrumentation	2	None

1000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 1202	Basic English for Allied Health Sciences 2	3*	None
AH 1201	General Pathology	3	None
RA 1201	Atomic and Radiation Physics	2	None
RA 1202	Radiobiology and Radiation Protection	2	None
RA 1203	Applied Anatomy – I	2	None
RA 1204	Medical Imaging Equipment	3	None
RA 1205	Plain Radiography – I	2	None
RA 1206	Medical Image Processing – I	3	None

2000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 2103	Intermediate English for Allied Health Sciences 1	3*	None
RA 2101	Programming Techniques	3	None

RA 2102	Fluoroscopy – I	2	RA 1204
RA 2103	Computed Tomography – I	3	None
RA 2104	Mathematics - II	2	RA 1104
RA 2106	Care of Patient - I	2	None
RA 2107	Common Systemic Diseases	2	None
RA 2108	Pharmacology for Medical Imaging	1	None
RD 2101	Mammography – I	1	None
RD 2102	Plain Radiography – II	2	RA 1205

2000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 2204	Intermediate English for Allied Health Sciences 2	3*	None
RA 2201	Ethics in Medical Radiation Sciences	1	None
RA 2202	Medical Image Processing - II	3	RA 1206, RA 2101
RA 2204	Magnetic Resonance Imaging – I	2	None
RA 2205	Modern Physics	2	RA1103, RA1201, RA1104
RD 2201	Fluoroscopy - II	2	RA 2102
RD 2202	Plain Radiography – III	3	RA 1205
RD 2203	Computed Tomography – II	2	RA 2103

3000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
AH3101	Statistics	3	None
RA 3101	Nuclear Imaging – I	3	None
RD 3102	Dental Radiography	2	None
RD 3103	Plain Radiography – IV	2	RD 2102, RD 2202
RD 3104	Applied Anatomy – II	1	AH 1103, RA 1203
RD 3108	Computed Tomography - III	3	RA 2103, RD 2203
RD 3109	Theatre Radiography - I	1	RA 2102
RD 3110	Fluoroscopy - III	2	RA 2102,RD 2201

3000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
RA 3202	Physics of Ultrasound Imaging	1	None
RA 3203	Research Methodology	2	None
RD 3201	Magnetic Resonance Imaging - II	3	RA 2204
RD 3202	Imaging in Common Systemic Diseases– I	1	AH 1103, AH 1201, RA 1203, RD3104
RD 3205	Mammography - II	2**	RD 2101`
RD 3207	Theatre Radiography - II	2***	RA 2102, RD 3109
RD 3208	Nuclear Imaging - II	2	RA3101
RD 3209	Care of Patient – II	2	RA 2106
RD 3210	Radiation Protection in Radiography	2	RA 1202, RA 2102, RA 3101
RD 3211	Applied Anatomy - III	2	RA 1203

4000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
RA 4102	Medical Imaging Informatics	1	RA 1206
RA 4103	Management of Health Care Organizations	1†	None
RA 4104	Productive Workforce and Organization in Health Care	1†	None
RD 4101	Maintenance of Medical Imaging Equipment	2	RA 1204, RA 2102
RD 4104	Radiation Dosimetry and Applications	2	RA 1202, RD 3210
RD 4105	Magnetic Resonance Imaging - III	3	RA 2204, RD 3201
RD 4107	Quality Assurance in Medical Imaging - I	2	RA 1204, RA 2102, RD 2101, RD 3102
RD 4108	Imaging in Common Systemic Diseases - II	2	RD 3211, RD3108
RD 4109	Paediatric Imaging	2	None

4000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
RA 4001	Research Project	6††	AH 3101, RA 3203
RA 4202	Ancillary Imaging Techniques	2	RA 2101
RD 4203	In-service Training	4	RD 2202, RD 3102, RD 3103, RD 3108, RD 3110, RD 3205, RD 3207, RD 3208, RD 4105, RD 4109
RD 4204	Quality Assurance in Medical Imaging - II	2	RA 2103, RA 2204, RD 3201

All the courses are listed above are compulsory for BScHons Radiography degree except RA4103 and RA4104.
* Non-GPA
** Mammography - II: Offered only for female students
*** Theatre Radiography - II: Offered only for male students
† Non-GPA optional course: The student may register and complete one or both optional non-GPA courses.
†† Research project will be started at 4000 Level Semester I and will continue throughout the 4000 level. The evaluation procedure will be concluded, and results will be released at the end of 4000 Level Semester II.

Prerequisites: In order to be eligible to follow the higher-level courses, the student shall complete the lower level courses. Completion of a prerequisite means to have followed all the components of the course and to be eligible to sit for the end semester examination.

Optional courses: The student may register and complete one or both optional non-GPA courses given in the list below. To offer an optional course at least 40% of the total number of students from the respective batch should register for the course.

RA 4103	Management of Health Care Organizations
RA 4104	Productive Workforce and Organization in Health Care

1000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 1101	Basic English for Allied Health Sciences 1	3*	None
AH 1101	Information Technology	2*	None
AH 1103	Basic Human Anatomy	3	None
AH 1104	Introduction to Psychology	2	None
AH 1106	Basic Biochemistry	2	None
RA 1101	Human Physiology	2	None
RA 1103	General Physics	2	None
RA 1104	Mathematics - I	2	None
RA 1105	Introduction to Electronics and Instrumentation	2	None

1000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 1202	Basic English for Allied Health Sciences 2	3*	None
AH 1201	General Pathology	3	None
RA 1201	Atomic and Radiation Physics	2	None
RA 1202	Radiobiology and Radiation Protection	2	None
RA 1203	Applied Anatomy – I	2	None
RA 1204	Medical Imaging Equipment	3	None
RA 1205	Plain Radiography – I	2	None
RA 1206	Medical Image Processing – I	3	None

2000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 2103	Intermediate English for Allied Health Sciences 1	3*	None
RA 2101	Programming Techniques	3	None
RA 2102	Fluoroscopy – I	2	RA 1204

RA 2103	Computed Tomography – I	3	None
RA 2104	Mathematics - II	2	RA 1104
RA 2106	Care of Patient - I	2	None
RA 2107	Common Systemic Diseases	2	None
RA 2108	Pharmacology for Medical Imaging	1	None
RT 2101	Radiotherapy Equipment and Physics - I	2	None
RT 2102	Molecular Oncology	2	None

2000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 2204	Intermediate English for Allied Health Sciences 2	3*	None
RA 2201	Ethics in Medical Radiation Sciences	1	None
RA 2202	Medical Image Processing - II	3	RA 1206, RA 2101
RA 2204	Magnetic Resonance Imaging – I	2	None
RA 2205	Modern Physics	2	RA1103, RA1201, RA1104
RT 2201	Principles of Radiotherapy and Oncology	2	RA 2102
RT 2202	Radiotherapy Methods - I	2	None

3000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
AH3101	Statistics	3	None
RA 3101	Nuclear Imaging – I	3	None
RT 3101	Radiotherapy Equipment and Physics - II	2	RT 2101
RT 3102	Applied Anatomy in Radiotherapy	2	RA 1203
RT 3103	Treatment Planning - I	2	None
RT 3104	Clinical Oncology and Radiotherapy - I	2	RT 2201, RT 2202
RT 3105	Radiotherapy Methods - II	2	RT 2202
RT 3106	Clinical Practice of Radiotherapy - I	2	RT 2101, RT 2202

3000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
RA 3202	Physics of Ultrasound Imaging	1	None
RA 3203	Research Methodology	2	None
RT 3201	Radiation Protection and Safety in Radiotherapy	2	RA 1202
RT 3202	Care of Patient - II	2	RA 2106, RT 3104
RT 3203	Treatment Planning - II	2	RT 3103
RT 3204	Clinical Oncology and Radiotherapy - II	2	RT 2201, RT 3105
RT 3205	Quality Assurance in Radiotherapy - I	2	RT 2101
RT 3206	Clinical Practice of Radiotherapy - II	3	RT 3101, RT 3105

4000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
RA 4102	Medical Imaging Informatics	1	RA 1206
RA 4103	Management of Health Care Organizations	1†	None
RA 4104	Productive Workforce and Organization in Health Care	1†	None
RT 4101	Paediatric Radiotherapy	2	RT 3105
RT 4102	Quality Assurance in Radiotherapy - II	2	RT 3101, RT 3205
RT 4103	Evidence Based Clinical Practice	2	None
RT 4104	Maintenance of Radiotherapy Equipment	2	RT 3101
RT 4105	Radiation Dosimetry and Applications	2	RA 1201
RT 4106	Clinical Practice of Radiotherapy - III	3	RT 3105

4000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
RA 4001	Research Project	6††	AH 3101, RA 3203
RT 4201	Treatment Planning - III	2	RT 3203
RT 4202	Advanced Radiotherapy Methods	2	RT 3105
RT 4203	In-service Training in Radiotherapy	6	RT 3201, RT 3202, RT 3204,

RT 3206, RT 4101, RT 4102,
RT 4106, RT 4201

All the courses are listed above are compulsory for BScHons Radiotherapy degree except RA4103 and RA4104.
* Non-GPA
† Non-GPA optional course: The student may register and complete one or both optional non-GPA courses.
†† Research project will be started at 4000 Level Semester I and will continue throughout the 4000 level. The evaluation procedure will be concluded, and results will be released at the end of 4000 Level Semester II.

Prerequisites: In order to be eligible to follow the higher-level courses, the student shall complete the lower level courses. Completion of a prerequisite means to have followed all the components of the course and to be eligible to sit for the end semester examination.

Optional courses: The student may register and complete one or both optional non-GPA courses given in the list below. To offer an optional course at least 40% of the total number of students from the respective batch should register for the course.
RA 4103 Management of Health Care Organizations
RA 4104 Productive Workforce and Organization in Health Care

Synopses of Course Contents

1000 Level

RA 1101 Human Physiology (2 Credits)
Introduction to basic organization of the human body, major body systems along with their functions, integration and regulation, organized around the central theme of homeostasis.
Course assessment: In-course 30%, End semester 70%

RA 1103 General Physics (2 Credits)
Units and dimensions, Mechanics, Wave mechanics, Electric and magnetic fields, Solids and fluids, Modern physics.
Course assessment: In-course 30%, End semester 70%

RA 1104 Mathematics - I (2 Credits)
Coordinate systems, Sets and inequalities, Introduction to vectors, Matrices and determinants, Complex numbers, Linear equations, Quadratic equations, Functions and graphs, Trigonometric functions, Limits, Derivatives, Exponential and logarithmic functions, Techniques of integration, Areas and volumes, Partial derivatives.
Course assessment: In-course 30%, End semester 70%

RA 1105 Introduction to Electronics and Instrumentation (2 Credits)
Fundamentals of electricity: DC circuits and AC circuits; Analog electronics: diodes, transistors and operational amplifiers; Digital electronics; Instrumentation: errors, digital instruments, sensors and transducers, calibration; Applications: signal acquisition, demodulation and hardware in medical imaging.
Course assessment: In-course 30%, End semester 70%

RA 1201 Atomic and Radiation Physics (2 Credits)
Bohr's theory of hydrogen like atoms, Angular momenta, Elementary particles, Nuclear properties, Radioactive decay, Fission, Fusion, X-ray production, X-ray interactions, Intensity of radiation, Attenuation, Particle radiation, Interactions of radiation with matter, Introduction to radiation detectors.

Course assessment: In-course 30%, End semester 70%

RA 1202 Radiobiology and Radiation Protection (2 Credits)

Background radiation, Quantities and units in radiation dosimetry, Radiation interactions, Biological basis of radiation cell killing, Cellular radio sensitivity, Radiation effects on normal tissues, Radiation carcinogenesis, Genetic effects of radiation, Radiation effects on developing embryo, External and internal hazards of radiation, Basic principles of radiation protection, Radiation protection programme.
Course assessment: In-course 30%, End semester 70%

RA 1203 Applied Anatomy - I (2 Credits)

Anatomy of appendicular skeleton, axial skeleton, muscles and joints, Surface anatomy, Anatomy of vascular, nervous and lymphatic systems, Cross sectional anatomy of brain, chest, abdomen, pelvis, upper and lower limbs.
Course assessment: In-course 40%, End semester 60%

RA 1204 Medical Imaging Equipment (3 Credits)

X-ray machine, Stationary anode X-ray tube, Rotating anode X-ray tube, X-ray production, Line focus principle, Transformers, X-ray generators, Mobile equipment, Exposure switches and timers, X-ray tube rating charts, X-ray filters, X-ray beam restrictors, Grids, Digital equipment.
Course assessment: In-course 30%, End semester 70%

RA 1205 Plain Radiography - I (2 Credits)

Basic principles of radiography, Terminology, Techniques and indications of basic radiographic projections of: upper limb, lower limb, spine, pelvis, skull, chest and abdomen; Evaluation criteria of the radiography images, Application of radiation protection.
Course assessment: In-course 30%, End semester 70%

RA 1206 Medical Image Processing - I (3 Credits)

Image Recording Media used in Conventional Radiography, Spectral emission , Latent image formation, Conventional film processing, Sensitometry, Film processor maintenance, Dark room procedures, Image artefacts, Digital Radiography, Digital image processing, Computed Radiography, Medical image

informatics, Quality Control for Digital Radiography.
Course assessment: In-course 30%, End semester 70%

2000 Level

RA 2101 Programming Techniques (3 Credits)
Syntax and semantics of programming, Structured data, Storing and accessing data structures, Object oriented programming concepts, Graphical user interface designs, Digital image manipulation in graphical user interface applications.
Course assessment: In-course 30%, End semester 70%

RA 2102 Fluoroscopy - I (2 Credits)
Basic principles of fluoroscopy, Fluoroscopy equipment setup and image formation, Digital fluoroscopy with flat- panel detectors, Dynamic flat-panel detectors: Types, Characteristics, Operating principles and advantages, Digital image postprocessing, Gray-scale image manipulation, Last-image hold, Temporal frame averaging, Edge enhancement, Temporal subtraction, Energy subtraction. In built facilities and measures for radiation protection, Image quality.
Course assessment: In-course 30%, End semester 70%

RA 2103 Computed Tomography - I (3 Credits)
Principles of CT, Data acquisition concepts, Image reconstruction, Basic instrumentation, Image post processing and visualization tools, Spiral/Helical CT, 3-D CT, Image quality, Image artifacts, SPECT/CT, PET/CT, Hybrid imaging, Cardiac CT, CT angiography, CT fluoroscopy, Breast CT, Virtual endoscopy, Applications of CT in radiation therapy, Radiation dose in CT.
Course assessment: In-course 30%, End semester 70%

RA 2104 Mathematics – II (2 Credits)
Lagrange multipliers, Infinite series, Vector analysis, First-Order Differential Equation, Higher-Order Linear Differential Equations with constant coefficients, Partial differential equations: Laplace, Heat and wave equation, Fourier series, Integral transformations: Laplace and Fourier transformations, Special functions:,Legendre, Bessel, Hermite and Laguerre, Monte Carlo methods.

Course assessment: In-course 30%, End semester 70%

RA 2106 Care of Patient - I (2 Credits)

Basic human needs, Routine patient care in Radiography/Radiotherapy unit, Effective communication and problem solving, First Aid, Infection control, Medical and surgical asepsis, Vital signs, Care of patients with drainage tubes and catheters, Care of elderly patients, Psychological aspects, Fire and electrical safety in the department.

Course assessment: In-course 30%, End semester 70%

RA 2107 Common Systemic Diseases (2 Credits)

Overview of common diseases of man; Cardiovascular diseases, Respiratory diseases, Diseases of the liver and biliary tract, Diseases of gastrointestinal tract, Diseases of locomotor system, Diseases of nervous system and muscle disorders, Renal diseases, Hematological diseases and Diseases of reproductive system.

Course assessment: In-course 30%, End semester 70%

RA 2108 Pharmacology for Medical Imaging (1 Credit)

Basic principles of pharmacology, Pharmacokinetic and pharmacodynamic concepts, Contrast media: properties, classification, selection and clinical application, techniques and routes of administration, Proper techniques for venipuncture, Pharmacology ofdrugs used in medical imaging and interventional procedures, Radiopharmaceuticals, Safety and adverse effects of pharmaceuticals used in medical imaging and interventional procedures, Mechanism of action of drugs available on the emergency trolley, Aseptic procedures in drug preparation.

Course assessment: In-course 30%, End semester 70%

RD 2101 Mammography - I (1 Credit)

Epidemiology of breast cancer, Breast anatomy and physiology, Physics and equipment, Techniques of mammography, Evaluation of the image and lesions identification, Breast biopsy and localization, Other methods of breast imaging, Radiation protection, Quality assurance.

Course assessment: In-course 30%, End semester 70%

RD 2102 Plain Radiography - II (2 Credits)

Positioning techniques of special projections of upper limb, lower limb, spine, pelvis, skull, chest and abdomen, Technical evaluation of the radiographs, Radiation protection, Inward and trauma radiography.

Course assessment: In-course 30%, End semester 70%

RT 2101 Radiotherapy Equipment and Physics – I (02 Credits)

Introduction to radiotherapy equipment: low energy X-ray equipment, Cobalt and other isotopic equipment; imaging equipment; simulators; mould room equipment; treatment setup devices; physical characteristics and comparisons, optical systems and comparisons; radiation safety of above equipment.

Course assessment: In-course 30%, End semester 70%

RT 2102 Molecular Oncology (02 Credits)

Tumour formation, benign and malignant disease, methods of spread of malignant disease; introduction to genetics, genetic predisposition and high-risk groups; radiation effects on malignant cells, tissues; fractionation and its effects, cell survival curve; chemotherapy and effects; radiobiological models; tissue tolerance dose, tumour lethal dose; therapeutic radiation and radio sensitivity.

Course assessment: In-course 30%, End semester 70%

RA 2201 Ethics in Medical Radiation Sciences (1 credit)

Values, Ethical schools of thought, Ethical principles, Patient Consent, Codes of professional ethics, Diversity, Caring and communication, Student and employee rights and responsibilities, Challenges, Ethical issues in health care.

Course assessment: In-course 30%, End semester 70%

RA 2202 Medical Image Processing - II (3 Credits)

Analog vs. digital images, Medical image modalities, DICOM image format, 2D, 3D and higher dimensional representations, Digital image processing, Visual perception, light and electro-magnetic spectrum, image acquisition, sampling and quantization, pixels, Image transformations, Image processing, Image segmentation, Representation and description, Digital image compression, Object recognition, Computer aided detection.

Course assessment: In-course 30%, End semester 70%

RA 2204 Magnetic Resonance Imaging - I (2 Credits)

Magnetization, Reference frames, Resonance, Bloch equation, Precision, Excitation and relaxation, Free induction decay, Instrumentation, Spin echo, Inversion recovery, Gradient echo acquisitions, Fourier imaging, k-space, Image resolution, Bioeffects and safety.

Course assessment: In-course 30%, End semester 70%

RA 2205 Modern Physics (2 Credits)

Electromagnetic theory: Electromagnetic waves in free space, Maxwell's equations, electromagnetic waves in dielectric and conducting media, Quantum physics: Schrödinger equation, Electron spin and fine structures, Spin orbit coupling, Quantum states, Hydrogen atom energy levels, Hydrogen atom wave functions.

Course assessment: In-course 30%, End semester 70%

RD 2201 Fluoroscopy - II (2 Credits)

Introduction to contrast media, Instrumentation and accessories, Techniques of fluoroscopy procedures of: Gastrointestinal system, Urinary system, Cardiovascular system, Reproductive system, Arthrography, Sialography, Radiation protection, Patient care.

Course assessment: In-course 30%, End semester 70%

RD 2202 Plain Radiography - III (3 Credits)

Practice of basic techniques of plain radiography: Upper limb, Lower limb, Vertebral column, Chest, Skull, Shoulder, Abdomen and Pelvis.

Course assessment: In-course 30%, End semester 70%

RD 2203 Computed Tomography – II (2 Credits)

Screening and patient preparation, Handling of the equipment, Different imaging techniques and protocols related to the central nervous system, musculoskeletal system and anatomical regions of head, neck, thorax and mediastinum, abdomen and pelvis, Paediatric imaging, Patient safety concerns, Image post-processing techniques, Aftercare of the patient.

Course assessment: In-course 30%, End semester 70%

RT 2201 Principles of Radiotherapy and Oncology 02 Credits

Introduction to radiotherapy; treatment modalities, suitability of radiation sources for teletherapy and brachytherapy; oncology and pathology related to anatomical systems, tumour staging; treatment intent, common cancers treated by each treatment modality and safety aspects; introduction to brachytherapy, principles of pre-loaded or after-loaded, interstitial, intracavitary, surface mould and radionuclide therapy; introduction to clinical radiotherapy, factors affecting the choice of treatment, technique, dose, documentation, information and communication.

Course assessment: In-course 30%, End semester 70%

RT 2202 Radiotherapy Methods – I 02 Credits

Isocentric and non-isocentric treatment; common treatment delivery techniques : single, parallel opposed, non-parallel opposed, multiple fields, dose distributions, advantages, disadvantages; patient positioning, immobilization, reproducibility, setup procedures, data verification, registration and recording, data monitoring, treatment verification and documentation; specific radiotherapy techniques for common sites: breast, gynecological, GIT, prostate, bladder, lung, lymphomas, CNS , head and neck with related to cobalt teletherapy; Mould room technology.

Course assessment: In-course 30%, End semester 70%

3000 Level

RA 3101 Nuclear Imaging – I (3 Credits)

Radioactivity, Decay equation, Successive decay equation, Radiation detectors, Gamma camera, SPECT, PET, PET/CT, Production of radionuclides, Production of radiopharmaceuticals, Nuclear pharmacy, Radioactive waste disposal, Internal radiation dosimetry, Radioimmunoassay, Radiation protection in nuclear medicine, Quality assurance and Quality control in nuclear imaging.

Course assessment: In-course 30%, End semester 70%

RD 3102 Dental Radiography (2 Credits)

Dental radiography equipment: OPG, Intra-oral and cephalostat. IOPA, Occlusal, Bitewing techniques, OPG, Cephalogram, Other extra oral radiographs, Cone beam CT.
Course assessment: In-course 30%, End semester 70%

RD 3103 Plain Radiography – IV (2 Credits)
Practice of special techniques of plain radiography: Upper limb, Lower limb, Vertebral column, Chest, Skull, Shoulder, Abdomen and Pelvis, In-ward radiography, Trauma radiography.
Course assessment: In-course 30%, End semester 70%

RD 3104 Applied Anatomy - II (1 Credit)
Radiographic anatomy: Plain radiography of skull, spine, abdomen, pelvis, chest,upper limb and lower limb. Mammography. Contrast studies of GIT, urinary, cardiovascular, respiratory, reproductive and hepatobiliary systems.
Course assessment: In-course 30%, End semester 70%

RD 3108 Computed Tomography - III (3 Credits)
Screening and patient preparation, Handling of the equipment, Perform different CT examinations related to the central nervous system, musculoskeletal system, anatomical regions of head, neck, thorax and mediastinum, abdomen and pelvis, paediatric CT, International and local guidelines and standards, Maintain professional ethics, Management of safe imaging environment.
Course assessment: In-course 30%, End semester 70%

RD 3109 Theatre Radiography - I (1 Credit)
Introduction to theatre and cath lab, Role of the radiographer in the theatre, Equipment and accessories, Sterilization and radiation protection, Theatre procedures: Orthopaedic surgeries, Neuro surgeries, Urological procedures, General surgeries, Cath lab and interventional procedures.
Course assessment: In-course 30%, End semester 70%

RD 3110 Fluoroscopy – III (2 Credits)
Practice of fluoroscopy procedures of Gastrointestinal, Urinary, Reproductive, Cardiovascular, Skeletal and hepatobiliary systems.

Course assessment: In-course 30%, End semester 70%

RT 3101 Radiotherapy Equipment and Physics – II (2 Credits)
Linear accelerators: photon, electron; Intensity Modulated Radiotherapy (IMRT), Image Guided Radiotherapy (IGRT) units; brachytherapy equipment; treatment planning systems; heavy particle accelerators; systemic therapy equipment; comparison of physical characteristics, optical systems; radiation safety of above units.
Course assessment:In-course 30%, End semester 70%

RT 3102 Applied Anatomy in Radiotherapy (2 Credits)
Surface anatomy: brain, head and neck, thorax, abdomen, nerves, blood vessels; surface marking: middle and lower 1/3 of oesophagus, heart, larynx, pharynx, stomach, liver, lungs, kidneys, spleen, prostate, cervix, pituitary gland, bladder
Course assessment:In-course 30%, End semester 70%

RT 3103 Treatment Planning – I (2 Credits)
Tumour localization: patient positioning, immobilization, reproducibility; target volume definitions; ICRU protocols; contouring and transferring data; principles of treatment planning, isodose distributions, devices influencing dose distribution.
Course assessment:In-course 30%, End semester 70%

RT 3104 Clinical Oncology and Radiotherapy – I (2 Credits)
A focus on cancer and current treatment modalities with emphasis on radiotherapy; cancers of the skin, brain, head and neck, thorax and gastrointestinal tract; anatomy, epidemiology, etiology, natural history, clinical presentation, patterns of spread, lymphatic involvement, work-up, staging, treatment options, radiotherapy techniques, prognosis, side effects and management and sequelae.
Course assessment:In-course 30%, End semester 70%

RT 3105 Radiotherapy Methods – II (2 Credits)
Iodine therapy; Three-Dimensional Conformal Radiotherapy (3D CRT); Electron Beam Therapy; IMRT; brachytherapy techniques and procedures.

Course assessment: In-course 30%, End semester 70%

RT 3106 Clinical Practice of Radiotherapy – I (2 Credits)

Preparation of treatment unit, patient and treatment; treatment technique, dose delivery; care and professionalism in cobalt-60 teletherapy unit with regard to techniques described in Radiotherapy Methods - I.

Course assessment:In-course 30%, End semester 70%

RA 3202 Physics of Ultrasound Imaging (1 Credit)

Ultrasound production, interactions and detection, Instruments, Spatial, contrast and temporal resolutions, Doppler ultrasound, Artifacts, Output measurements, Performance measurements, Bioeffects and safety, Quality assurance.

Course assessment: In-course 30%, End semester 70%

RA 3203 Research Methodology (2 Credits)

A research problem, Hypothesis and objectives, Process of the scientific method, Differences in research and evidence-based practice, Sources of scientific information, Primary and secondary scientific information, Types of research and types of research designs, Literature review, Population and sampling, Types of variables, Scales of measurements, Data collection methods, Specificity, Sensitivity, Reliability and validity in relation to a test or measurements, Sources of error in research and methods of minimizing errors, Ethical principles, Components of a research proposal and dissertation.

Course assessment: In-course 30%, End semester 70%

RD 3201 Magnetic Resonance Imaging – II (3 Credits)

Sequence design; Gradient echo, Fast imaging in the steady state, Echo planar imaging, MR angiography, Diffusion imaging, Perfusion imaging, Cardiac MRI, Dynamic contrast enhanced MRI, Parallel imaging, Spectroscopic imaging, Susceptibility weighted imaging, Functional MRI, Hyperpolarized gas imaging, MRCP, Artefacts. Techniques of MRI: Central nervous system, Abdomen and pelvis, MRCP, Extremities, Cardiac MRI, MR Angiography, Prostate, Breast, Endocrine system, Paediatric MRI, MR contrast studies, MR spectroscopy, MR imaging parameters and protocol setup.

Course assessment: In-course 30%, End semester 70%

RD 3202 Imaging in Common Systemic Diseases – I (1 Credit)

Manifestations of common pathological conditions which may appear on radiographic images of respiratory system, cardiovascular system, gastrointestinal tract, genitourinary tract, central nervous system, musculo - skeletal system, breast and paediatrics.

Course assessment: In-course 30%, End semester 70%

RD 3205 Mammography – II (2 Credits)

Practice of mammographic projections and image processing, Biopsy procedures, Evaluation of mammography images, Quality control procedures, Effective communication with the patient and staff.

Course assessment: In-course 30%, End semester 70%

RD 3207 Theatre Radiography - II (2 Credits)

Principle of C-arm and fluoroscopy unit, Preparation of the equipment and the radiographer himself, Fluoroscopy procedures: Hepatobiliary, Urinary, Cardiovascular systems, Orthopedic surgeries and Neuro surgeries, Radiation protection to the patient and staff.

Course assessment: In-course 30% End-Semester examination - 70%

RD 3208 Nuclear Imaging - II (2 Credits)

Radiopharmaceuticals and radiolabelling, Nuclear imaging procedures for thyroid, parathyroid, genito-urinary, cardiovascular, respiratory, skeletal, central nervous , hepato biliary, gastrointestinal systems, Myocardial stress imaging, Infections & tumour imaging, Nuclear imaging procedures in emergency, Therapeutic nuclear medicine, Patient care, Quality control.

Course assessment: In-course 30%, End semester 70%

RD 3209 Care of Patient - II (2 Credits)

Medical emergencies in diagnostic imaging, Care of patients during contrast enhanced studies, CT, MRI, Nuclear imaging and mobile radiography, Care of patients with: Impaired hearing and vision, Burns, Cardiac and respiratory problems, Mental disorders, Trauma, Head and spinal cord injuries, Communicable diseases, Care of isolated patients, Cardiopulmonary resuscitation.

Course assessment: In-course 30%, End semester 70%

RD 3210 Radiation Protection in Radiography (2 Credits)

Radiation exposure control programme, Radiation detectors, Dose calculations from radiation sources, Methods of dose reduction, Patient dose in diagnostic radiology and nuclear medicine, Designing of diagnostic radiology and nuclear medicine facilities, Safe transport of radiation sources, Safe management of radioactive wastes, Radiation protection through quality assurance.

Course assessment: In-course 30%, End semester 70%

RD 3211 Applied Anatomy – III (2 Credits)

Anatomy on: Cross sectional images of CT Brain, Para nasal sinuses, Pituitary, Orbits, Temporal bone, Abdomen & pelvis, Chest, Musculoskeletal. Post-processing techniques of CT: Angiography, Urography, Virtual colonoscopy and bronchoscopy. Anatomy on cross sectional images of MRI: Brain, Spine, Para nasal sinuses, Pituitary, Orbits, Musculoskeletal, Abdomen & pelvis, Breast, MR angiography, MRCP, MR urography.

Course assessment: In-course 30%, End semester 70%

RT 3201 Radiation Protection and Safety in Radiotherapy (02 Credits)

Dose from internal exposure; calculation of shielding for gamma and beta rays; safe use of unsealed sources in radiotherapy; accidental exposures, emergency procedures, rules and regulations; construction of radiotherapy bunkers; personal dose monitoring; management of radiation exposed personnel; regulations on source transportation and replacement; regulations on radiographers.

Course assessment: In-course 30%, End semester 70%

RT 3202 Care of Patient – II (2 Credits)

Communication, ethics, care of patients before, during and after radiotherapy, skin and mouth care during radiotherapy; monitoring and management of common side effects; care of chemo irradiated patients; practical problems in radiotherapy room, handling equipment, shielding, immobilization devices; emergency treatments; care of elderly patients, paediatric patients, differently abled patients, unconscious patients, patients with communicable/ noncommunicable diseases, patients with tubes.

Course assessment: In-course 30%, End semester 70%

RT 3203 Treatment Planning – II (2 Credits)

Parameters used in treatment planning; corrections for tissue inhomogeneities and surface irregularities,

tissue compensator, bolus; treatment planning techniques; patient positioning; design of wedge filters; dose calculations for Cobalt-60, linear accelerator; skin dose, electron contamination of photon beams, dose distribution in build-up region, skin sparing effect, effect of absorber skin distance, field size, electron filters, skin sparing at oblique incidence, separation of adjacent fields, guidelines for field matching, dose calculation outside the beam; two dimensional manual planning for breast, maxillary antrum, oesophagus, bladder and prostate, rectum tumours; errors in treatment planning.
Course assessment: In-course 30%, End semester 70%

RT 3204 Clinical Oncology and Radiotherapy – II (2 Credits)
Further exploration of cancer and current treatment modalities with emphasis on radiotherapy, cancers of genitourinary, lymphoreticular, musculoskeletal, integumentary, hematopoietic and endocrine systems; anatomy, epidemiology, etiology, natural history, clinical presentation, patterns of spread, lymphatic involvement, work-up, staging, treatment options, radiotherapy techniques, prognosis, side effects, management and sequelae.
Course assessment: In-course 30%, End semester 70%

RT 3205 Quality Assurance in Radiotherapy – I (2 Credits)
Basics: managing QA programme, QA instrumentation, QA programme for Cobalt-60 units, linear accelerator units, brachytherapy units, simulator units, mould room; detailed periodic QA programme for Cobalt-60 and linear accelerator units; performance of routine QA procedures.
Course assessment: In-course 30%, End semester 70%

RT 3206 Clinical Practice of Radiotherapy – II (3 credits)
Preparation of treatment unit, patient, treatment; technique, dose delivery; care and professionalism in brachytherapy and iodine therapy units with regard to techniques described in Radiotherapy Methods - II.
Course assessment: In-course 30%, End semester 70%

4000 Level

RA 4102 Medical Imaging Informatics (1 Credit)
Introduction to medical imaging informatics, Review of imaging anatomy and physiology, Information systems and architectures, Medical data visualization, Documenting imaging findings.
Course assessment: In-course 30%, End semester 70%

RA4103 Management of Healthcare Organizations (1 Credit)
State sector vs. private sector, Preventive sector vs. curative sector, Central health ministry vs. provincial health ministry, Functional structure of a hospital, Organizational structure of hospital & campaign, Administrative procedures, Basics of financial regulations, Purchases & supply management, Inventory & stores management.
Course assessment: In-course 30%, End semester 70%

RA 4104 Productive Workforce and Organization in Health Care (1 Credit)
Quality in healthcare organization, Infection-free & safe environment, Effective human resource management, Medical ethics & etiquettes, Medical documentations & it's legal aspects, Leadership skills, Professional conduct, Conflict Management in workplaces, Effective Communication, Public relations, Updates on current health trends, Circulars & guidelines.
Course assessment: In-course 30%, End semester 70%

RD 4101 Maintenance of Medical Imaging Equipment (2 Credits)
Health and safety in maintenance work, Management of medical equipment, Basic Electricity and Electronics, Instrumentation. Corrective and preventive maintenance of X-ray generators & high tension cables, Health and safety act and electricity at work regulations, X-ray tube and its components, Fluoroscopy equipment, Mobile radiography equipment, Capacitor discharge and C-Arm equipment, Automatic film processors.
Course assessment: In-course 30%, End semester 70%

RD 4104 Radiation Dosimetry and Applications (2 Credits)
Radiation field quantities, Quantities and units used in radiation protection, X and Gamma-rays

interaction with matter, Charged particle interactions with matter, Dose calculations, Measurement of exposure: free air chamber, air wall chamber, Bragg-Gray principle, Bio dosimetry, Personal dosimetry, Radiopharmaceutical dosimetry, Dose
measurement in clinical setting.
Course assessment: In-course 30%, End semester 70%

RD 4105 Magnetic Resonance Imaging - III (3 Credits)
Screening and patient preparation, Handling of the equipment and selection of MR coils, Perform MRI examinations related to the central nervous system, musculoskeletal system, endocrine system, anatomical regions of head, neck, breast, thorax and mediastinum, abdomen and pelvis, prostate, extremities and joints, paediatric MRI, MR spectroscopy, Patient care, International and local guidelines and standards, Maintain professional ethics, Management of safe imaging environment.
Course assessment: In-course 30%, End semester 70%

RD 4107 Quality Assurance in Medical Imaging - I (2 Credits)
Quality system, Quality assurance and quality control, Acceptance testing, Radiographic quality control routine performance: X-ray tube quality control, QA in dental radiography, mammography, fluoroscopy and digital radiography.
Course assessment: In-course 30%, End semester 70%

RD 4108 Imaging in Common Systemic Diseases- II (2 Credits)
Manifestations of pathological conditions which may appear on CT brain, para nasal sinuses, orbits, temporal bone, spine, chest, abdomen and pelvis, musculo skeletal system, cardiovascular system and CT angiography, Manifestations of pathological conditions which may appear on MRI brain, pituitary, orbits, spine, musculo skeletal system, chest, abdomen and pelvis, breast, cardiac MRI and MR Angiography, MRCP.
Course assessment: In-course 30%, End semester 70%

RD 4109 Paediatric Imaging (2 Credits)

Understanding childhood, Clinical applications, International and national directives and guidelines, Consent, Technical considerations: minimizing heat loss, immobilisation, sedation and anesthesia, administration of contrast media, nill per orally (NPO) status, radiation protection, Effective communication, Radiographic techniques for the chest and upper respiratory tract, central nervous system, musculoskeletal system, cardiovascular system, gastrointestinal system and genitourinary system, Paediatric MRI and nuclear imaging examinations, Imaging of neonates, Imaging of non-accidental trauma.

Course assessment: In-course 30%, End semester 70%

RT 4101 Paediatric Radiotherapy (2 Credits)

Introduction to paediatric tumours; late effects of paediatric radiotherapy; radiotherapy for CNS tumours, neuroblastoma, soft tissue sarcomas and Wilms' tumour.

Course assessment: In-course 30%, End semester 70%

RT 4102 Quality Assurance in Radiotherapy – II (2 Credits)

Acceptance tests, commissioning tests, dosimetric checks; detailed QA programme for brachytherapy units, brachytherapy sources and simulator units; QA programme for advanced treatment methods; QA programme for recording and verification; performance of QA procedures.

In-course 30%, End semester 70%

RT 4103 Evidence Based Clinical Practice (2 Credits)

Introduction to evidence-based practice and epidemiology; evaluating the evidence; applying evidence practice principles to professional practice.

Course assessment: In-course 30%, End semester 70%

RT 4104 Maintenance of Radiotherapy Equipment (2 Credits)

Carry out maintenance of low energy and high energy photon equipment, brachytherapy equipment, treatment planning equipment, equipment used in systemic therapy, treatment set up devices and mould room equipment.

ICourse assessment: In-course 30%, End semester 70%

RT 4105 Radiation Dosimetry and Applications (2 Credits)

Principles of radiation dosimetry, Application in radiotherapy: calibration of cobalt, linear accelerator, in vivo and in vitro dosimetry.

Course assessment: In-course 30%, End semester 70%

RT 4106 Clinical Practice of Radiotherapy – III (3 credits)

Preparation of treatment unit, patient, treatment; technique, dose delivery; care and professionalism in linear accelerator and CT simulation units with regard to techniques described in Radiotherapy Methods - II.

Course assessment: In-course 30%, End semester 70%

RA 4001 Research Project (6 Credits)

Problem identification and project formulation, Search and retrieve information required, Identification and optimal utilization of available resources, Project execution, Socioeconomic, ethical and safety evaluation, Data collection and analysis, Dissertation writing and presentation.

Course assessment: In-course 70%, End semester 30%

RD 4202 Ancillary Imaging Techniques (2 Credits)

Skeletal survey, Bone densitometry: DEXA, Quantitative ultrasound, Quantitative computed tomography, Foreign body imaging, Soft tissue imaging and tomography, Forensic radiological procedures, Macro radiography, Veterinary radiological procedures.

Course assessment: In-course 30%, End semester 70%

RD 4203 In Service Training (4 Credits)

Practice of plain radiography, Fluoroscopy and contrast studies, Digital radiography, Mobile radiography, Dental radiography, Nuclear imaging, CT, MRI, Mammography and Theatre radiography.

Course assessment: In-course 80%, End semester 20%

RD 4204 Quality Assurance in Medical Imaging - II (2 Credits)

Quality assurance tests in CT, Quality assurance tests in MRI.

Course assessment: In-course 30%, End semester 70%

RT 4201 Treatment Planning – III (2 Credits)

Introduction to 3D planning; 3D planning of different clinical cases; IMRT, electron, brachytherapy treatment planning and dose calculation.

Course assessment: In-course 30%, End semester 70%

RT 4202 Advanced Radiotherapy Methods (2 Credits)

Stereotactic radiosurgery, stereotactic radiotherapy, Volumetric Modulated Arc Therapy (VMAT), total skin electron treatment, Total Body Irradiation (TBI), IGRT, tomotherapy, advanced brachytherapy methods, motion sensitive approaches to radiotherapy.

Course assessment: In-course 30%, End semester 70%

RT 4203 In-service Training in Radiotherapy (6 credits)

Practice of radionuclide therapy, brachytherapy, 3D planning, electron therapy, IMRT.

Course assessment: In-course 30%, End semester 70%

DEPARTMENT OF BASIC SCIENCES

Department of Basic Sciences

Academic Staff

Phone: 081-2065782

Dr. W.M.G.M.B. Bowatte; B.Sc. Zoology Sp. (Peradeniya), Ph.D. (Australia) - Head of the Department

Dr. T.P. Gamagedara; B.Sc. Chemistry Sp. (Peradeniya), Ph.D. (Peradeniya)
Dr. N.G.D.A.K. Neelawala; B.VSc. (Peradeniya), M.Phil (Peradeniya)

Dr. W.M.G.M.B. Bowatte
Head of the Department
Senior Lecturer

Dr. T.P. Gamagedara
Senior Lecturer

Dr. N.G.D.A.K. Neelawala
Lecturer(Probationary)

Course Units Offered by the Department

The Department of Basic Sciences offers courses mainly in the 1000 Level for all six-degree programmes to provide students with strong scientific foundation required to excel in their relative health sciences degree programmes. In the 1000 Level Semester I, the department offers AH 1101 - Information Technology (2 credits) and AH 1103 - Basic Human Anatomy (3 credits) to all six-degree programmes. AH 1102 - Human Physiology I (3 credits) is offered to BScHons Nursing, BPharm Hons, BScHons Physiotherapy and BScHons MLS degree programmes. AH 1104 - Introduction to Psychology (2 credits) is offered to BScHons Nursing, BScHons Physiotherapy and BScHons Radiography/BScHons Radiotherapy. AH 1105 - (3 credits) and AH 1106 (2 credits) - Basic Biochemistry courses are offered to BScHons Nursing, BPharm Hons, BScHons Physiotherapy and BScHons Radiography/BScHons Radiotherapy. RA 1101 (2 credits) - Human Physiology is offered to BScHons Radiography/BScHons Radiotherapy and ML 1102 (3 credits) - Biochemistry is offered to BScHons MLS.

In the 1000 Level Semester II: AH 1201 - General Pathology (3 credits) is offered to all six-degree programmes and AH 1202 - Human Physiology II (3 credits) is offered to BScHons Nursing, BPharm Hons, BScHons Physiotherapy and BScHons MLS. AH 1203 - Basic Statistics (2 credits) is offered to BScHons Nursing and BPharm Hons. ML 1201 (3 credits) - Analytical Chemistry is offered to the BScHons MLS and RA 1203 (2 credits) - Applied Anatomy I is offered to BScHons Radiography/BScHons Radiotherapy.

In addition, the Department of Basic Sciences contributes to some courses offered by the five departments of the faculty for the students of all four years.

Synopses of Common Courses

1000 Level

AH 1101 Information Technology (2 Credits)
Basic concept of computers, Types of computers, Components of a computer, System analysis and design, Data processing, Web page development & languages, System analysis and design, Data processing, Computer networks, E-mail/Internet concepts.
Course assessment: In-course 30%, End semester 70%

AH 1102 Human Physiology I (3 Credits)
Introduction to basic organization of the human body, Integration & regulation of the human body functions organized around the homeostasis, Cell physiology, Nervous system, Cardiovascular system, Respiratory system, Lymphatic and Gastrointestinal systems.
Course assessment: In-course 30%, End semester 70%

AH 1103 Basic Human Anatomy (3 Credits)
The cell, Cell division, Basic tissue types, Functional organization of nervous system, Cardiovascular system, Bone cartilage and joints, Muscular system, Gastrointestinal system, Respiratory system, Lymphatic system, Urinary system, Reproductive system, Structure of special sensory organs.
Course assessment: In-course 30%, End semester 70%

AH 1104 Introduction to Psychology (2 Credits)
Introduction to Psychology with an emphasis on health-related issues, Major perspectives in psychology, Psychology applied to nursing and health care in general, Coping with stressful situations.
Course assessment: In-course 40%, End semester 60%

AH 1105 Basic Biochemistry (3 Credits)
Structure, Function and metabolism of carbohydrates, Proteins, Lipids and nucleic acids, Regulation and integration of metabolism, Introductory Medical Biochemistry, Biochemical tests for identification of basic biomolecules, Analysis of enzyme properties.

Course assessment: In-course 30%, End semester 70%

AH 1106 Basic Biochemistry (2 Credits)

Structure, Function and metabolism of carbohydrates, Proteins, Lipids and nucleic acids, Regulation and integration of metabolism, Introductory Medical Biochemistry.
Course assessment: In-course 30%, End semester 70%

AH 1201 General Pathology (3 Credits)

Introduction to pathological mechanisms common to all tissue-cell pathology, Processes of cell injury, Cellular adaptations to injury, Inflammation and repair, Circulatory disturbances, Immunopathology, Neoplasia and genetic basis of diseases.
Course assessment: In-course 30%, End semester 70%

AH 1202 Human Physiology II (3 Credits)

Foundation on information of normal physiological functions of the nervous, endocrine, renal and reproductive systems, which will allow an increased understanding of the integration, regulation and homeostasis of the human body as well as changes seen in pathological states.
Course assessment: In-course 30%, End semester 70%

AH 1203 Basic Statistics (2 Credits)

Big picture of statistics, Data, Sample and population, Variables, Descriptive statistics, Probability and normal curve, Hypothesis and hypothesis testing, Parametric and non-parametric tests, Correlation and introduction to linear regression.
Course assessment: In-course 30%, End semester 70%

ENGLISH LANGUAGE TEACHING UNIT

English Language Teaching Unit (ELTU)

Academic Staff

Phone: 081 – 2065798

Ms. Salani Wijerathne ; B.A. in English (Peradeniya), MA in Linguistics (Kelaniya)
Coordinator

Course Units Offered by the English Language Teaching Unit

The Foundation Course in English

1000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 1101	Basic English for Allied Health Sciences 1	3*	None

1000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 1202	Basic English for Allied Health Sciences 2	3*	None

2000 LEVEL – SEMESTER I

Course Code	Course Title	No. of Credits	Prerequisites
EL 2103	Intermediate English for Allied Health Sciences 1	3*	None

2000 LEVEL – SEMESTER II

Course Code	Course Title	No. of Credits	Prerequisites
EL 2204	Intermediate English for Allied Health Sciences 2	3*	None

* Courses will not be considered for GPA calculation

English Language Teaching Unit (ELTU)

COURSE OUTLINES

The English as a Second Language Courses offered by the English Language Teaching Unit combines English for General Purposes (EGP) and Allied Health Science-based English for Specific Purposes (ESP), approximating a 1:2 ratio.

The Foundation Course in English

This course is designed to function as a refresher course for the new entrants, in order to develop the four language skills required to follow lectures in an English medium degree programme. Owing to the fact that students with a variety of proficiency levels enter the Faculty, the course has been designed to cater to all levels after a careful analysis of language competence, standards and needs. The focus is on developing the four language skills, namely Reading, Writing, Speaking and Listening, in order to enable students to use English in practical contexts. This course is designed on the Eclectic approach where the process approach to English Language learning and teaching is used.

1000 Level

EL 1101 Basic English for Allied Health Sciences 1 (3 Credits)

The aim of this course is to provide the students with the knowledge of basic grammar and language skills and enable students to read, understand and evaluate basic descriptive texts, and to write accurately at UTEL Band 4 Level of competence in the skill areas of Reading and Writing as they transit into a degree programme which is conducted in the English medium. English for General Purposes (EGP) and Allied Health Science-based English for Specific Purposes (ESP) are introduced in an attempt to improve the knowledge of the undergraduates and the course will provide them with an insight and the required knowledge of English in order to function within the academic milieu of a University.

Key Areas of Focus: Selected reading passages describing people, places, Allied Health Science disciplinary themes, texts with appropriate punctuation exercises, reading comprehension texts, and relevant passages with appropriate and sequenced vocabulary elements. Surveying a textbook, skimming and scanning text and processing information appropriately. Language Development and Writing, Formulating simple descriptions of general and scientific context and developing methods of note-taking, Writing short descriptions of self, immediate

environment and current situations, formal and informal letters, email and similar communication. Mechanics of Writing: subject-verb agreement, use of connectives, spelling and punctuation. Introduction to dictionary skills for self-learning purposes, Pronunciation and phonetic symbols, Speech activities related to general and academic contexts.
Course assessment: In-course 40%, End semester 60%

EL 1202 Basic English for Allied Health Sciences 2 (3 Credits)

The aim of this course is to enable students to understand simple instructions, statements, notices and questions, and to be able to formulate these themselves. This will place them at UTEL Band 4 Level of competence in the skill areas of Listening and Speaking.
Key Areas of Focus: Instructions and directions, announcements, basic questions and answers, sequence markers and conjunctions/connectives, short speeches and dialogues, professional instructions, creative expression, telephone conversations. Sharing personal information appropriately, using and explaining quantitative and qualitative data at a basic level, making short speeches, asking and answering questions, telephone and other conversations for social and information-gathering purposes. Vocabulary development and expansion, Group discussions, Presentations, Impromptu Speaking on general and general health topics, Speech related to formal and informal settings and identifying contextual references.
Course assessment: In-course 40%, End semester 60%

2000 Level

EL 2103 Intermediate English for Allied Health Sciences 1 (3 Credits)

The second year courses are developed with the aim of introducing students to English for Academic Purposes (EAP). A higher level of competency is expected at this level as students will be introduced to technical and formal writing.
The aim of this course is to ensure that students are successful at UTEL Level 5 in the Reading and Writing examinations. More specifically, the course aims to familiarize students with academic texts of a descriptive and argumentative nature, including visuals such as graphs and tables, as well as to ensure that they can summarize, take notes, skim and scan effectively, and write narrative/descriptive/informative texts of approximately 500 words.
This module caters to the need of English competency for academic and professional purposes. Students will also

be familiarized with IELTS, and complex technical writing. Students are expected to undertake writing assignments of some complexity, identify the authorial voice in texts and to state and defend one's position on issues in an argument.

Key Areas of Focus: Academic and professional texts from the main field and sub-fields of Allied Health Sciences, reading comprehension passages of general and specific interest to undergraduates, reference and citation style guides. Academic and professional text writing, visuals (tables, charts, graphs) and data commentaries (qualitative and quantitative). Language Development and Writing, Cause-effect relationships, Process writing, Comparisons, Formal Letter writing, Direct-Indirect Speech, Vocabulary expansion, Thesis statements, Idioms and proverbs, Phrasal Verbs, Varieties of English, Exposure to different accents of English, Poster presentations, Debates, Group discussions and puzzles. Developing schemata and description, Transitional devices, Report writing, Conditionals, Preparation of a Curriculum Vitae, Application procedure, Reading and understanding Journal Articles, Précis Writing, IELTS Practice tests, How to face an Interview, How to make a presentation, Presentation of a report.

Course assessment: In-course 40%, End semester 60%

EL 2204 Intermediate English for Allied Health Sciences 1 (3 Credits)

This module The aim of this course is to ensure that students are successful at UTEL Level 5 in the Listening and Speaking examinations. They will, therefore, be able to listen to and grasp the main idea of a short speech, through an understanding of sequence markers and key vocabulary related to these spoken texts. This includes subject-related English for Academic Purposes (EAP). The aim is also to enable students to make short descriptive speeches about themselves, their surroundings and their basic substantive disciplines.

Key Areas of Focus: Short lectures and note-taking, discussions on subject- specific areas, answering listening comprehension exercises, identification of main ideas of verbal/visual texts and provide evidence. Understanding and following complex instructions within the field of AHS. Making impromptu speeches, conducting small- group discussions, role plays and simulations, and delivering short speeches on given
topics.

Course assessment: In-course 40%, End semester 60%

Faculty of Allied Health Sciences (FAHS) - Rules and Regulations

Regulations made by the Senate of the University of Peradeniya and approved by the Council under Section 136 read with Sections 29, 45 and 46 of the Universities Act No. 16 of 1978 as amended by the Universities (Amendment) Act No.7 of 1985.

These Rules and Regulations shall apply from 2019/2020 batch onwards.

The Degrees offered by the Faculty of Allied Health Sciences

The Degree of Bachelor of Science Honours in Medical Laboratory Science (123 Credits)
The Degree of Bachelor of Science Honours in Nursing (127 Credits)
The Degree of Bachelor of Pharmacy Honours (125 Credits)
The Degree of Bachelor of Science Honours in Physiotherapy (127 Credits)
The Degree of Bachelor of Science Honours in Radiography (127 Credits)
The Degree of Bachelor of Science Honours in Radiotherapy (127 Credits)

Terminology

Semester: An academic year is divided into two semesters, identified as the first semester and the second semester. Each semester is of 15 weeks duration.

Course Unit: This is a complete course taught within a semester with one or more contact hours per week. A contact hour is defined as an hour of lectures, practical, tutorials etc.

Levels: Undergraduate courses will be conducted at 4 levels, namely 1000 level, 2000 level, 3000 level and 4000 level. The subject matter advances as the levels go up.

Credit: The abstract value assigned to a course unit on the basis of contact hours per week is called a credit. One credit is equivalent to:

Lectures	15 hours
Tutorials	15 hours
Demonstrations	15 hours
Small Group Discussions	15 hours
Practical	30 hours
Field Work	45 hours
Clinical Work/Clinical Training	45 hours
Hospital Based Training	50 hours
Work Place-Based Learning	50 hours
Student Directed Learning	60 hours

Grade Point Value: The marks obtained for all academic courses shall be graded as follows. The marks shall carry grades and grade points according to the ranges within which they fall. The grades are designated by the symbols A+, A, A-, B+, B, B-, C+, C, C- , D+, D and E.

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

(Note: A+ and A have the same grade points.)

Grade Point Average (GPA): The grade point average for each level is the credit weighted mean of grade points obtained by a student for the course units offered at that level. It is calculated to the second decimal place and is an indicator of the academic performance of the student. The final GPA is computed using these level GPAs.

Prerequisites: In order to be eligible to follow the higher-level courses, the student shall complete the lower level courses.

Part I
Introduction

1. The Council of the University of Peradeniya shall have authority to confer the Degree of Bachelor of Science Honours in Medical Laboratory Science/Nursing/Physiotherapy/Radiography/Radiotherapy and the Degree of Bachelor of Pharmacy Honours on a person who has been recommended for the conferment of the said degree by the Senate of the University.

2. The Senate shall not make such a recommendation unless the person has successfully fulfilled all requirements and conditions, including those relating to the programme of study and assessment, laid down in these Rules and Regulations and has complied with By-Laws of the University.

3. Any person admitted to a degree programme shall complete the same within a period of eight academic years from the date of first registration.

Part II
Admission and Registration

4. The admission of a person to the respective degree programme conducted by the University of Peradeniya shall be done by the authorized statutory body under the Universities Act No. 16 of 1978 or any other relevant law that replaces it.

5. A person who has been admitted to the said degree programme under the law or relevant regulation in force shall register himself/herself with the University of Peradeniya by returning the duly perfected registration form.

6. It shall be the duty and responsibility of the student who is admitted to the Faculty of Allied Health Sciences to keep his/her registration valid by paying the prescribed fees on time until he/she completes the programme.

7. The registration shall be valid for one semester at a time and shall be renewed for each semester, subjected to the provisions of these Rules and Regulations, unless otherwise decided by the Senate on the recommendation of the Faculty Board of the Faculty of Allied Health Sciences.

Part III
The Programme

8. Respective degrees shall be awarded on the completion of the total number of credits prescribed in the relevant degree programme. The academic years shall be known as 1000 level, 2000 level, 3000 level and 4000 level. Each level of the programme of study shall be divided into two semesters except 4000 level in Bachelor of Science Honours in Medical Laboratory Science degree programme unless otherwise decided by the Senate on the recommendation of the Faculty Board of the Faculty of Allied Health Sciences.

9. The Programme of study shall consist of compulsory, compulsory non-GPA and optional course units as may have been prescribed by these Rules and Regulations. A course unit shall carry a time-based credit value as specified in the schedule.

10.

I. A student shall register for all course units including compulsory non-GPA and optional course units for each semester as prescribed in the schedule of the respective degree programme.

II. Course registration forms shall be submitted to the office of the Assistant Registrar of the faculty with the recommendation of the relevant Head of the Department in the last week of the previous semester.

11. The first and second digits of the course code shall denote the respective level and the semester of the study programme respectively except 4000 level in Bachelor of Science Honours in Medical Laboratory Science degree programme.

12. The titles and descriptions of course units offered in each subject area, the nature of individual systems of evaluation and other relevant requirements leading to the respective degree in the relevant subject area shall be prescribed by regulations made by the Senate and shall be contained in the prospectus of the Faculty of Allied Health Sciences.

13. The Senate shall have the power, on the recommendation of the Faculty Board, to change, to amend or to add to the course units, contents and to any rules and regulations relating to any requirements leading to the degree programme. Due notice shall be given to the students of such amendments, changes or additions.

14. Instructions at each level of the degree programme shall be in the form of lectures, practical, demonstrations, tutorials, small group discussions,assignments, hospital based training, work place based training, clinical work/training,field work, reports, presentations, seminars, research and/or any other forms approved by the Faculty Board. The Faculty Board shall have the authority to decide the method/s of imparting instruction at each level. The medium of instruction and evaluation shall be English.

15. Student progression is dependent upon meeting both general and programme-specific rules and regulations. The following programme-specific requirements should be met by students to progress in their respective degree programmes.

    I. Student progression in the Bachelor of Science Honours in Medical Laboratory Science degree programme,

        A. In order to follow the higher-level courses, the student shall complete the lower level courses. Completion of a prerequisite means to have followed all the components of the course and fulfilled the eligibility criteria to sit for the end-semester examination for that course or have minimum of C grade to specified courses.

B. A student who obtains grades of C-, D+, D, or E for the ML 1102, should upgrade into a C grade in order to be eligible to follow Clinical Chemistry I (ML 2102) and a student who obtains grades of C-, D+, D-, or E for the ML 1203 should upgrade into a C grade in order to be eligible to follow Diagnostic Bacteriology (ML 3203) course.

C. A student who obtains grades of C-, D+, D-, or E for the prerequisite courses (ML 1102, ML 1203) will be given a special repeat examination at the end of 1000 Level to upgrade their grades.

II. Student progression in the Bachelor of Science Honours in Nursing degree programme,

A. A. In order to be eligible to follow the higher-level courses, the student shall complete the relevant prerequisite courses. Completion of a prerequisite means to have followed all the components of the course and to be eligible to sit for the end-semester examination.

III. Student progression in the Bachelor of Pharmacy Honours degree programme,

In oder to follow higher level courses students must meet the prerequisites specified in the schedule of the Bachelor of Pharmacy Honours degree programme. Completion of a prerequisite means to have followed the course and fulfilled the eligibility criteria to sit for the end-semester examination for that course.

IV. Student progression in the Bachelor of Science Honours in Physiotherapy degree programme,

A. **Eligibility to register for Level 3000:** A Student should have GPA of at least 2.00 (with minimum grade of C- for any subject) for the Level 1000 courses to become eligible to register for Level 3000 . Students who do not have GPA of at least 2.00 OR having grades below C- for Level 1000 courses are **NOT** eligible to register for Level 3000.

B. **Eligibility to register for Level 4000:** A Student should have cumulative GPA of at least 2.00 for the Level 1000 and Level 2000 courses (with minimum grade of C- for maximum 02 subjects) to become eligible to register for Level 4000. Students who do not have cumulative

GPA of at least 2.00 for Level 1000 and Level 2000 ; OR having C- grades for more than 02 subjects in Level 1000 and Level 2000 courses; OR having grades below C- for any subject in Level 1000 and Level 2000 courses are **NOT** eligible to register for Level 4000.

C. A candidate who obtains C- or a lower grade in a course or is unable to sit for examination will have to undertake the examination at the next available attempt with the next batch.

V. Student progression in the Bachelor of Science Honours in Radiography degree programme and Bachelor of Science Honours in Radiotherapy degree programme,

I. In order to be eligible to follow the higher-level courses, the student shall complete the relevant prerequisite courses. Completion of a prerequisite means to have followed all the components of the course and to be eligible to sit for the end semester examination.

II. A candidate should pass (C or above) all courses except optional courses in order to be eligible to obtain the degree.

16. The students who do not have 80% attendance for lectures or 100% attendance for hospital based training/clinical training/laboratory classes and for all relevant training will not be eligible to sit for the end semester examination and shall register for the said course with the next immediate offer. In order to sit for the examination, he/she shall complete the course in a manner deemed satisfactory by the Head of the Department / course coordinator.

17. Pregnancy Policy

Based on the internal circular (Circular No. TA/SA/10/2010) issued by the Ministry of Health, which prohibits pregnant females to be employed in the radiography units in government hospitals, the Department of Radiography/ Radiotherapy wishes to advise and make the following recommendations to a pregnant student:

Students reading for a Bachelor of Science Honours in Radiography degree or Bachelor of Science

Honours in Radiotherapy degree should comply with the circulars adopted. The first responsibility for the protection of the conceptus lies with the student herself and as such recommends the pregnancy to be declared in writing to the Head of the Department as soon as the pregnancy is confirmed by completing the pregnancy declaration form available in the department.

If such a declaration is made, all the radiation related practical, clinical training, demonstrations, workshops and research work will be temporarily suspended for the particular student. The student should inform the department in writing the date which she is able to resume such activities after the delivery and request for the recommencement of the temporarily suspended work. This request should be made before the completion of the granted leave period. The Department strongly advices declaration, as an undeclared pregnancy once detected by the hospital could create a breach of trust and may even lead to refusal of future training.

Pregnant students:

- May complete the theory part of the programme without any modifications.
- May obtain leave of absence of one year duration or as required. Such a student will be granted leave of absence with a chance to follow the programme with the next available batch and such examinations will be considered as her first attempt. The student must complete the necessary requirements of the courses before proceeding to the next level.
- Should be aware of all risks associated with continuing the programme. Any modifications/changes to the study programme will not be made to accommodate such students.
- Should complete the degree programme within the time period as stipulated by the Faculty and the University.

Part IV
Eligibility Criteria for Examinations

18. Evaluation of all courses shall be conducted under the semester system and all examinations shall be held within a given semester and/or at the end of each semester unless otherwise decided by the Faculty Board of the Faculty of Allied Health Sciences.

    I. A student shall not be permitted to sit for an end-semester examination unless the Head of the relevant Department/course coordinator has certified that the student has satisfied all the requirements of the relevant course unit, including at least 80% attendance for lectures and 100% attendance for laboratory classes/practical.

    II. It is mandatory to have 100% attendance in hospital based/clinical training components of all the relevant courses. Those who are unable to attend during the regular clinical sessions due to a valid excuse as defined in 18 (IV), should complete the respective component with the approval of the relevant Head of the Department before sitting the end-semester examination.

    III. Submission of all the assignments and tutorials at the appropriate time and attending workshops where applicable are mandatory requirements to be eligible to sit for an examination.

    IV. A valid excuse shall be:

        A. Illness or injury: In case of an illness or injury, the student or his/her parent/guardian should contact the Dean within 7 days by telegram/fax/e-mail, followed by a letter indicating the nature of illness and the name of the attending doctor. A medical certificate supporting the illness of the student should also be sent to the Dean within 14 days. Medical certificates should be obtained from the following persons: University Medical Officer, DMO, Consultant in the particular field, Head of a Base Hospital, registered medical practitioner, MS of a provincial Ayurvedic hospital or Ayurvedic physician registered with the Ayurvedic Medical Council. The UMO shall certify the acceptance of the medical certificate.

B. Personal problems involving an immediate family member: In case of a personal problem involving an immediate family member, the student should contact the Dean within 7 days by telegram/ fax/e-mail, followed by a letter within a period of 14 days indicating the circumstances leading to his/her absence for the examination. His/her excuse shall be considered by the Faculty Board. Grounds for favorable consideration may be:

- Death of an immediate family member.
- Serious illness of an immediate family member requiring personal attention by the student, and certified by a medical practitioner specified in the University rules and regulations governing medical certificates.

C. A student participating in a university or national level event or for any other legitimate cause for which prior permission has been obtained from the Faculty Board.

D. Natural disasters affecting the student. Student should be able to provide proof upon the request of the Faculty Board.

19. Those who are unable to fulfill the attendance requirements to sit an examination should complete the necessary requirements prior to the next available examination.

20. A student should sit the first available examination held following the completion of the course or at the end of each semester unless a valid excuse has been submitted to the Faculty Board.

21. In the absence of an accepted excuse, failure to sit the first available examination shall be considered as an attempt at the examination.

22. The examinations prescribed by these rules and regulations shall be conducted by Boards of Examiners appointed by the Senate on the recommendation of the Faculty Board.

- Every student following the programme of study in a given level shall take the relevant examinations of course at the very first occasion they are held.

- A student shall be deemed to have sat the first scheduled examination irrespective of the fact whether she/he has actually sat or not, unless the Senate is satisfied that the candidate has been prevented from sitting the examination due to illness or any other reasonable cause as described in 18 (IV).

- A student who fails to complete any course in the first attempt shall be eligible to repeat the course in the next 3 consecutive attempts only.

- However, under exceptional circumstances, an appeal should be submitted to the Assistant Registrar through the respective Head of the Department for the 5th attempt, and it may be entertained by the Faculty Board. In counting the number of attempts a student has exhausted, the attempts deemed under 23 of this section shall also be taken into account.

23.

I. A candidate is deemed to have failed a course if she/he has earned a grade below C. A candidate who obtains C- or a lower grade in a course may re-sit the examination for the purpose of improving the grade to a C grade within the stipulated period.

II. A candidate should pass (C or above) all courses prescribed in the schedule of the respective degree programme in order to be eligible to obtain the degree.

Part V
Award of the Degree

24. The marks obtained for all academic courses shall be graded as below. The marks shall carry grades and grade points according to the ranges within which they fall.

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

25. Grades of all registered courses except non-GPA courses in a programme of study shall be taken into account and all courses considered shall be weighted according to their corresponding credit values when Grade Point Average (GPA) is calculated.

The formula for the calculation of the GPA shall be as follows:

$$GPA = \frac{\sum c_i \times g_i}{\sum c_i}$$

Where, c_i and g_i are the number of credits and the grade point for the i^{th} course unit.

26. A candidate should complete all prescribed courses in the relevant degree programme at all four levels and should pass all the compulsory courses including the non-GPA courses and any optional courses that contribute to the GPA as prescribed in the schedule of the relevant degree programme and should obtain a GPA of 2.00 or above in order to be eligible to obtain the degree

27. A candidate who fulfills the requirements of the relevant degree shall be awarded First Class, Second Class (Upper Division), Second Class (Lower Division), or a Pass based on the GPA as follows:

Award

- First Class: GPA of 3.70 or above
- Second Class (Upper Division): GPA of 3.30 – 3.69
- Second Class (Lower Division): GPA of 3.00 – 3.29
- Pass: GPA of 2.00 – 2.99

Part VI
Interpretation

28. In these Rules and Regulations, unless it is specifically stated otherwise, The "University" means the University of Peradeniya, established in terms of the Universities Act No 16 of 1978 as amended subsequently. The "Senate" means the Senate of the University of Peradeniya, constituted under Universities Act No 16 of 1978 as amended subsequently. The "Faculty Board" means the Faculty Board of the Faculty of Allied Health Sciences of the University of Peradeniya, constituted under the Universities Act.

29. Any questions regarding the interpretation of these Rules and Regulations shall be referred to the Council of the University of Peradeniya, which after obtaining the views of the Senate, will make a decision on such questions. The decision of the Council thereon shall be final.

By-Laws Relating to Students

Student Discipline

Given below are the By-Laws made by the Council of the University of Peradeniya under Section 29 (n) read with Section 135(1) (d) of the University Act No.16 of 1978 as amended by Acts No. 7 of 1985 and No. 26 of 1988.

By-Laws

Part I – General

1. These By-laws may be cited as the "By-laws, No. 01 of 1996, relating to Students Discipline" and shall come into operation on 26th October 1996. These By-laws supersede any other By-laws or Regulations that may have been issued to students earlier.

2. Notwithstanding anything to the contrary in any of the provisions of these By-laws, the Vice-Chancellor shall take appropriate action he deems necessary to maintain discipline at the University and nothing in these By-laws shall be construed in a manner to detract from the powers, duties and functions conferred on or imposed upon the Vice-Chancellor by the Universities Act No.16 of 1978 (hereinafter referred to as the "Act") or by any other Instrument.

3.

I. Upon coming into operation of these By-laws, there shall be established a Board of Discipline (referred to as the "Board") constituted as provided in Sub-paragraph (2).

II. The Board of Discipline shall consist of the following Members, who shall hold office for a period of 03 (three) years with effect from the date of appointment:

A. The Dean of each Faculty;

B. A Proctor, if any, or a Deputy Proctor nominated by the Proctor;

C. Two Wardens nominated by the Vice-Chancellor;

D. Two members of the Council nominated by the Council, from among its appointed members;

E. Two senior Student Counselors nominated by the Vice-Chancellor.

III. The Registrar or his nominee shall be the ex-officio Secretary of the Board.

IV. The Chairman of the Board shall be elected by the members from among the Deans and he shall preside at all meetings of the Board. If the Chairman is unable to preside at a meeting the members shall elect any Dean to preside at such meeting.

V. The Chairman shall hold office for a period of one year reckoned from the date of his election so long as he retains the status of membership by virtue of which he was eligible for election as the Chairman of the Board and is eligible for re-election.

VI. The quorum for the meeting of the Board shall be seven members.

4. Subject to the provisions of the Act, and of any other appropriate Instrument, the Board shall have the following powers, duties and functions:

I. To regulate and determine all matters concerning the maintenance of student discipline within the University;

II. To make Rules pertaining to student discipline within the University;

III. To hold inquiries or cause inquiries to be held pertaining to allegations of indiscipline or misconduct on the part of any student or students of the University;

IV. The Vice-Chancellor may appoint a Committee of Inquiry to inquire into an incident where he thinks it appropriate in the circumstances and the Board of Discipline shall consider such reports made by such a Committee and recommend appropriate action.

V. To impose appropriate penalties or punishments, on any student or students who have been found guilty of any acts of indiscipline or misconduct or who have been found guilty of an offense under these By-laws or, of acting in contravention of the provisions of these By-Jaws or the Rules made by the Board;

VI. To do all other acts incidental to the powers aforesaid as may be required in order to further the objectives of these By-laws.

Part II

1. Without prejudice to the generality of the powers, duties and functions conferred upon orimposed on the Council by the Act or any other Instrument, the Council shall be responsible for the administration and implementation of these By-laws.

2.

(1) These By-laws shall apply to every Registered Student of the University of Peradeniya (hereinafter referred to as the "University".

(2) (a) For the purpose of these By-laws "Registered Student" means any student who has already been duly admitted and registered at the University for any academic year or any student who is duly admitted and registered from time to time in respect of any Academic year, or, other period of study.

(b) "Academic Year" for the purpose of these By-Jaws, shall be construed to mean the academic year as decided by the Senate from time to time.

(3) (a) Every student of the University shall be of good behaviour and shall at all times conduct himself in an orderly manner befitting the status of an undergraduate or graduate student.

(b) Students of the University shall at all times endeavour to safeguard the dignity, good name and reputation of the University.

3. Students are admitted and registered as undergraduates or graduate students of the University, subject to their good behaviour and the observance of strict discipline.

4. Each and every student duly registered as a student of the University shall be issued with a copy of these By-laws, the provisions of which will be binding on him in conformity with the declaration made by him in terms of Section 17(b) of the application for University admission submitted by him to the University Grants Commission.

5. Upon the receipt of an application on the prescribed form for registration as a student of the University,together with such documents as may be necessary for this purpose, the Registrar or such other officer as may be nominated by him for this purpose shall register such student and shall issue to the student so registered an Identity Card and a Students' Record Book bearing the photograph of thestudent concerned duly embossed with the seal of the University which shall be final and conclusive evidence pertaining to the Identity of the student and also to the accuracy of the particulars stated therein.

6. Every registered student of the University shall have in his possession either such Identity Card or Students' Record Book, which he shall produce when called upon to do so by a member of the academic staff or by any officer authorized by the Vice-Chancellor or Registrar for this purpose.

7. If any registered student shall fail to produce or willfully refuses to produce or neglects to produce

such Identity Card or Students' Record Book when called upon to do so by an authorized officer of the University, such student shall be deemed to be guilty of an offense punishable under these By-laws.

8. In the event of the failure or the refusal to produce such Identity Card or Students' Record Book to any member of the academic staff or an authorized officer, such officer shall have the power to take such student into custody and to produce him before the Dean of the respective Faculty or Warden of the respective Hall of Residence of such student if he claims to be residing in a Hall of Residence for identification. In the event of such student not being a resident of a Hall of Residence, such student may be produced before the Marshal/Chief Security Officer, who shall report him to the Proctor for appropriate action.

9. The particulars stated in the Identity Card or Students' Record Book shall be deemed to contain prima facie evidence of the status of the student and shall be in the manner prescribed in Schedule I of these By-laws.

10.

(1) The Dean of each Faculty of the University shall have full power and authority to exercise supervisory control over the discipline of all students within the Faculty.

(2) The Vice-Chancellor may appoint a senior academic member as the Proctor of the University and he shall act on behalf of the Vice-Chancellor in matters of student discipline within the University. The Vice-Chancellor may delegate any of his powers and duties regarding student discipline within the University to the Proctor.

(3) The Vice-Chancellor may, in consultation with the Dean and the Proctor, appoint a member of the academic staff of each Faculty as the Deputy Proctor for such Faculty. The first Deputy Proctor may be appointed by the Vice-Chancellor in consultation with the Dean of the respective Faculty.

(4) A Deputy Proctor shall assist the Dean and the Proctor in matters of student discipline within the Faculty.

(5) A Deputy Proctor shall also assist the Proctor in his functions as Proctor in matters of student discipline within the University.

11. For the purpose of exercising the powers conferred upon the Dean by the preceding paragraph, the Dean may issue from time to time instructions as he deems necessary for the maintenance of discipline in his Faculty.

12. Where the Dean of a Faculty of the University is satisfied that there is a likelihood of the breakdown of the smooth functioning of his Faculty due to the disorderly behaviour or conduct on the part of a student or students, the Dean may take immediate remedial measures with the assistance of the Proctor and his Deputies to prevent a breakdown of the functioning of the Faculty by -

(i) Reprimanding such student or students for disorderly behaviour, or

(ii) Suspension of such student or students from the University or from attending lectures/ courses, etc., for a period not exceeding two weeks.

(iii) Reporting to the Vice-Chancellor for action such behaviour of a student or students where a Dean is of the opinion that the incident is of such nature that it requires the intervention of the University authorities for appropriate action under the By-laws of the University.

13. The Dean shall report to the Vice-Chancellor and the Proctor any disciplinary action taken by the Dean under these By-laws.

14. Upon coming into operation of these By-Laws the University shall have full power and authority to consider and assess the conduct of each student in determining the eligibility of such student for the conferment on him of the degree, diploma, certificate or other academic distinctions.

15. Every registered student shall be bound to protect and safeguard the property of the University. "Property" for this purpose includes buildings, libraries, lecture halls, furniture, equipment, and all other movable and immovable assets of the University.

16. If in the event of any student being found guilty of damaging or destroying or attempting to damage or destroy the property of the University, he shall be deemed to have committed an offense and shall be dealt with in accordance with the provisions of these By-Laws.

17. Every student shall endeavour to foster a corporate and community spirit of life and shall always respect the liberty, freedom and personality of fellow students.

18. No student shall engage in anti-social actions or in any act calculated to humiliate, ridicule, hurt or harass a fellow student or any other person within the University or engage in any other anti-social conduct which may bring the University to disrepute.

19. No student shall incite provoke or aid and abet any other student in the commission of any of the acts specified herein before.

20. Any student who acts in violation of paragraphs 6(3)(a) & (b) and 21 to 24 of these By-Laws shall be guilty of an offense punishable under the provisions of these By-Laws.

21.

(1) No meeting may be held within the University premises by any student or students, University Union or society, or other association of students of the University, except with the written approval of the Proctor. The Dean of the Faculty may permit the holding of a meeting of the Faculty students, Faculty Unit or Society where it is restricted to the students of such Faculty.

(2) Where the approval of the Dean/Proctor, as the case may be, has been so granted subject to such terms and conditions relating to the venue and date of such meeting and its duration and any other matter as may be deemed to be necessary in the circumstances, the meeting must be held in conformity with all such terms and conditions.

(3) Any student who summons or causes the holding of a meeting other than in the manner prescribed in the foregoing paragraph or aids and abets any other person to summon or hold such meeting, shall

be guilty of an offense and shall be liable for punishment, under the provisions of these By-Laws.

(4) (a) Unless the prior written consent of the Vice-Chancellor has been obtained, no subscription or currency may be collected from among the students, staff of the University or the general public by any student or office-bearer of any union, society or association.

(b) Provided, however, that the provision of this paragraph shall not apply to a subscription collected by a registered union, society or association in accordance with its Constitution or any By-Laws made in terms of section 115(2) of the Act.

22.

(1) No notice, pamphlet, publication or other printed material detrimental to the good name and discipline of the University, words defamatory of any member of the staff or student of the University, may be published and/or distributed, circulated or exhibited in any Hall of Residence, Lecture Hall/ Room, Laboratory or on any other building or any other property standing on the premises of the University within its territorial boundaries.

Provided however that the provision of this paragraph shall not apply to notices, pamphlets, publications and printed material relating to the activities of any registered Students' Union, Society or other Association established and recognized under section 115 of the Act and intended solely for the furthering of academic or social objectives.
Provided that such material shall not be detrimental to the good name and discipline of the University, or any member of the staff or student of the University.

(2) Any note, pamphlet, bulletin published should contain the signature of the President or the Secretary of such Organization.

23. The Board of Discipline may for any breach of these By-Laws or for any offense punishable under the provisions of these By-Laws by any registered student, recommend to the Vice-Chancellor the imposing on him of any one or more of the following punishments:

(i) A written warning or a severe reprimand;

(ii) Suspension from the University;
(iii) Withdrawal of residential facilities and accommodation;
(iv) Withdrawal, cancellation or suspension of any financial benefits, assistance or award under the Mahapola Scholarship Scheme, any Bursary Scheme or endowed Scholarship Scheme;
(v) Disqualification from sitting any University Examination for a specific period;
(vi) Suspension of the release of the results of any University Examination for a specific period;
(vii) Expulsion from the University.

24.

(1) The Board of Discipline or allied Committee of Inquiry appointed by the Board or the Vice-Chancellor for purposes set out in paragraph 4(iii) or 4(iv) shall have the power to summon any student of the University, to attend any Inquiry or to give evidence thereat and to direct any student to make a written statement concerning any matter pertaining to his conduct or behaviour or to the conduct or behaviour of any other student within the University.

(2) Such Committee of Inquiry shall conduct such inquiries in accordance with the rules of natural justice as far as possible.

(3) Before the commencement of such inquiry, every accused student shall be informed of the charge or charges against him to be tried at the inquiry before the Committee of Inquiry.

(4) An accused student shall be allowed to be present either in person or with a representative of the Peradeniya Students' Union or the respective Faculty Students' Union, at the inquiry, and may also be allowed to suggest to the Chairman of the Committee of Inquiry any questions that may be put to any person who testifies before the Committee of Inquiry.

(5) The Chairman of the Committee of Inquiry may at his discretion put to the witness such questions suggested by or on behalf of the accused student.

(6) Under exceptional circumstances the Chairman of the Committee of Inquiry may allow the witnesses

to give evidence recorded in camera.

25.

(1) Upon the declaration of an order of closure of the University by the University authorities every student of the University shall be bound to act in accordance with this Order and shall leave the University premises before the stipulated time specified in such Order.

(2) Any student who acts in contravention of the provisions of the foregoing paragraph shall be deemed to have committed an offense and shall be liable to be punished in accordance with the provisions of these By-Laws.

26.

(1) Any student on whom a punishment has been imposed by the Vice-Chancellor on the recommendation of the Board of Discipline and who is aggrieved by the decision of the Board regarding the punishment may within a period of one month from the date of communication to him of such punishment or penalty, appeal against such punishment or penalty to the Vice-chancellor.

(2) Upon the receipt of an appeal, the Vice-Chancellor shall refer such appeal to an Appeals Committee appointed by him.

(3) The Appeals Committee, for the purposes of the above paragraph, shall consist of three persons of legal/academic eminence appointed by the Vice-Chancellor.

The Appeals Committee shall have the power to review the decision of the Board of Discipline regarding the punishment imposed and may either affirm, vary or set aside the decision regarding the punishment.

27.

(1) It would be the duty of a Warden of a Hall of Residence to impose discipline among the students of the Hall of Residence and act in consultation with the Proctor regarding matters pertaining to student discipline in the Hall of Residence.

(2) A Warden of a Hall of Residence shall inquire into complaints of breach of discipline and take appropriate action by himself where the act of indiscipline is not of a serious nature and may impose any of the following punishments:

(i)Suspension from the Hall of Residence for a period not exceeding two weeks;
(ii) Written warning.

(3) In every case in which a Warden acts under the above provisions, he shall submit a report to the Proctor and shall act in consultation with the Proctor. Where the Proctor is of the view that the breach of discipline is of such nature that it calls for his intervention, he may act in the manner laid down in these By-laws.

(4) Any student who is aggrieved by the punishment imposed by a Warden shall have the right to appeal to the Vice-Chancellor forthwith, and the Vice-Chancellor shall instruct the Proctor to conduct a formal inquiry where he considers it desirable, depending on the nature of the incident.

28.

(1) The Dean of a Faculty shall impose discipline among the students of the Faculty and shall act in consultation with the Proctor and Deputy Proctor of the Faculty regarding matters pertaining to student discipline in his Faculty.

(2) The Dean of a Faculty shall inquire into complaints of a breach of discipline and take appropriate action by himself where the act of indiscipline is of such a nature that it could be adequately dealt with by imposing any of the following punishments:

(i) Suspension from academic activities for a period not exceeding two weeks;
(ii) A written warning.

(3) In every case in which a Dean acts under the above provisions, he shall submit a report to the Proctor.

(4) Any student who is aggrieved by the punishments imposed by a Dean of a Faculty shall have the right to appeal to the Vice-Chancellor who may review the punishment and/or order the conduct of a formal inquiry where he considers it desirable, depending on the nature of the incident.

29.

(1) Subject to the provisions of the Universities Act and other Statutes of the University, the Proctor shall be the authority in charge of the maintenance of discipline among the students of the University.

(2) In discharging the above duties, he shall act in consultation with the Vice - Chancellor and with the assistance of the Deputy Proctors.

(3) The Proctor shall inquire into complaints of breach of discipline in the University and take appropriate action.

(4) Where the incident of indiscipline is of such a nature that it can be adequately dealt with by the imposition of the following punishments, he may act by himself:

(i)Suspending from the University for a period not exceeding 05 weeks;
(ii) A written warning.

(5) In every case in which the Proctor acts under these provisions, he shall submit a report to the Vice-Chancellor.

(6) Any student who is aggrieved by the punishment imposed by the Proctor shall have the right to appeal to the Vice-Chancellor forthwith and the Vice-Chancellor may review the punishment and/or order a formal inquiry where he considers it desirable.

(7) In cases in which incidents of indiscipline are reported, the Proctor shall conduct a preliminary inquiry and submit his observations to the Vice-Chancellor for appropriate action under these By-laws.

30.

(1) A Deputy Proctor of a Faculty shall assist the Dean of the Faculty to maintain and impose discipline among students of the Faculty and shall report to the Dean regarding such matters.

(2) A Deputy Proctor shall also assist the Proctor in the maintenance of discipline among the students of the University.

Prohibition of Ragging and other forms of Violence

The Act to Eliminate Ragging and Other Forms of Violence, and Cruel, Inhuman and Degrading Treatment, from Educational Institutions (Prohibition of Ragging and other forms of Violence in Educational Institutions Act, No. 20 of 1998)

Be it enacted by the Parliament of the Democratic, Socialist Republic of Sri Lanka as follows: -

Short Title

1. This Act may be cited as the Prohibition of Ragging and Other Forms of Violence in Educational Institutions Act, No. 20 of 1998.

Ragging

2. (1) Any person who commits, or participates in, Ragging, within or outside an educational institution, shall be guilty of an offence under this Act and shall on conviction after summary trial before a Magistrate be liable to rigorous imprisonment for a term not exceeding two years and may also be ordered to pay compensation of an amount determined by court, to the person in respect of whom the offence was committed for the injuries caused to such person.

(2) A person who, whilst committing ragging, causes sexual harassment or grievous hurt to any student or a member of the staff of an educational institution shall be guilty of an offence under this Act and shall on conviction after summary trial before a Magistrate be liable to imprisonment for a term not exceeding ten years and may also be ordered to pay compensation of an amount determined by court, to the person in respect of whom the offence was committed for the injuries caused to such person.

Criminal Intimidation

3. Any person who, within or outside an educational institution, threatens, verbally or in writing, to cause injury to the person, reputation or property of any student or a member of the staff, of an educational institution (in this section referred to as "the victim") or to the person, reputation or property of some other person in whom the victim is interested, with the intention of causing fear in the victim or of

compelling the victim to do any act which the victim is not legally required to do, or to omit to do any act which the victim is entitled to do, shall be guilty of an offence under this Act and shall on conviction after summary trial before a Magistrate be liable to rigorous imprisonment for a term not exceeding five years.

Hostage Taking

4. Any person who does any act, by which the personal liberty and the freedom of movement of any student or a member of the staff of an educational institution or other person within such educational institution or any premises under the management and control of such educational institution, is restrained without lawful justification and for the purpose of forcing such student, member of the staff or person to take a particular course of action, shall be guilty of an offence under this Act and shall on conviction after summary trial before a Magistrate, be liable to rigorous imprisonment for a term not exceeding seven years.

Wrongful Restraint

5. Any person who unlawfully obstructs any student or a member of the staff of an educational institution, in such a manner as to prevent such student or member of the staff from proceeding in any direction in which such student or member of the staff has a right to proceed, shall be guilty of an offence under this Act and shall on conviction after summary trial before a Magistrate be liable to rigorous imprisonment for a term not exceeding seven years.

Unlawful Confinement

6. Any person who unlawfully restrains any student or a member of the staff of an educational institution in such a manner as to prevent such student or member of the staff from proceeding beyond certain circumscribing limits, shall be guilty of an offence under this Act and shall on conviction after summary trial before a Magistrate be liable to imprisonment for a term not exceeding seven years.

Forcible Occupation and Damage to Property of an Educational Institution

7. (1) Any person who, without lawful excuse, occupies, by force, any premises of, or under the management or control of, an educational institution shall be guilty of an offence under this Act, and shall on conviction after summary trial before a Magistrate be liable to imprisonment for a term not exceeding

ten years or to a fine not exceeding ten thousand rupees or to both such imprisonment and fine.

(2)Any person who causes mischief in respect of any property of, or under the management or control of, an educational institution shall be guilty of an offence under this Act and shall on conviction after summary trial before a Magistrate be liable to imprisonment for a term not exceeding twenty years and a fine of five thousand rupees or three times the amount of the loss or damage caused to such property, whichever amount is higher.

Orders of Expulsion or Dismissal

8. Where a person is convicted of an offence under this Act, the court may, having regard to the gravity of the offence-

(a)in any case where the person convicted is a student of an educational institution, order that such person be expelled from such institution;

(b)in any case where the person convicted is a member of the staff of an educational institution, order that such person be dismissed from such educational institution.

Bail

9. (I) A person suspected or accused of committing an offence under subsection (2) of section 2 or section 4 of this Act shall not be released on bail except by the judge of a High Court established by Article 154P of the Constitution. In exercising his discretion to grant bail such Judge shall have regard to the provisions of section 14 of the Bail Act No. 30 of 1997.

(2) Where a person is convicted of an offence under subsection (2) of section 2 or section 4 of this Act, and an appeal is preferred against such conviction, the Court convicting such person may, taking into consideration the gravity of the offence and the antecedents of the person convicted, either release or refuse to release, such person on bail.

Certain provisions of the Code of Criminal Procedure Act not to apply to persons convicted or found guilty of an offence under this Act

10. Notwithstanding anything in the Code of Criminal Procedure Act, No, 15 of 1979-

(a) the provisions of section 303 of that Act shall not apply in the case of any person who is convicted,

(b) the provisions of section 306 of that Act shall not apply in the case of any person who pleads or is found guilty, by or before any court of any offence under subsection (2) of section 2 or section 4 of this Act.

Offences under this Act deemed to be cognizable offences

11. All offences under this Act shall be deemed to be cognizable offences for the purposes of the application of the provisions of the Code of Criminal Procedure Act, No.15 of 1979, notwithstanding anything contained in the First Schedule to that Act.

Certificate

12. Where in any prosecution for an offence under this Act, a question arises whether any person is a student or a member of the staff of an educational institution or whether any premises or property is the property of, or is under the management and control of, an educational institution a certificate purporting to be under the hand of the head or other officer of such educational institution to the effect that the person named therein is a student or a member of the staff of such educational institution, or that the premises or property specified therein is the property of, or is under the management and control of, such educational institution, shall be admissible in evidence without proof of signature and shall be prima facie evidence of the facts stated therein.

Admissibility of Statement in Evidence.

13. (1) If in the course of a trial for an offence under this Act, any witness shall on any material point contradict either expressly or by necessary implication a statement previously given by him in the course of any investigation into such offence, it shall be lawful for the Magistrate if, after due inquiry into the circumstances in which the statement was made, he considers it safe and just –

(a) to act upon the statement given by the witness in the course of the investigation, if such statement is corroborated in material particulars by evidence from an independent source; and

(b) to have such witness at the conclusion of such trial, tried before such court upon a charge for intentionally giving false evidence in a stage of a judicial proceeding.

(2) At any trial under paragraph (b) of subsection (I) it shall be sufficient to prove that the accused made the contradictory statements alleged in the charge and it shall not be necessary to prove which of such statements is false.
Provisions of this Act to be in addition to and not in derogation of the provisions of the Penal Code and C.

14. The provisions of this Act shall be in addition to, and not in derogation of, the provisions of the Penal Code, the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment Act, No.22 of 1994 or any other law.

Priority for Trials and appeals under this Act.

15. Every Court shall give priority to the trial of any person charged with any offence under this Act and to the hearing of any appeal from the conviction of any person for any such offence and any sentence imposed on such conviction.

Sinhala text to prevail in case of inconsistency.

16. In the event of any inconsistency between the Sinhala and Tamil texts of this Act, the Sinhala text shall prevail.

Interpretation

17. In this Act unless the context otherwise requires –

"criminal force", "fear", "force", "grievous hurt", "hurt" and "mischief" shall have the respective meanings

assigned to them in the Penal Code;
"educational institution" means –

(a) a Higher Educational Institution;

(b) any other Institution recognized under Chapter IV of the Universities Act, No. 16 of 1978;

(c) The Buddhist and Pali University established by the Buddhist and Pali University of Sri Lanka Act, No.74 of 1981;

(d) The Buddha Sravaka Bhikku University, established by the Buddha Sravaka Bhikku University Act. No. 26 of 1996:

(e) any Institute registered under section 14 of the Tertiary and Vocational Education Act, No. 20 of 1990;

(f) any Advanced Technical Institute established under the Sri Lanka Institute of Technical Education Act, No. 29 of 1995;

(g) a Pirivena registered under the Pirivena Education Act, No. 64 of 1979 and receiving grants from State Funds and includes a Pirivena Training Institute established under that Act;

(h) the Sri Lanka Law College;

(I) the National Institute of Education established by the National Institute of Education Act, No. 28 of 1985;

(j) a College of Education established by the College of Education Act No. 30 of 1986, or a Government Training College;

(k) a Government School or an assisted school or an unaided school, within the meaning of the

Education Ordinance (Chapter 185);
and includes any other institution established for the purpose of providing education, instruction or training;

"'head of an educational institution", means the Vice-Chancellor, Mahopadyaya, Director, President, Principal or any other person howsoever designated charged with the administration and management of the affairs of such educational institution:

"Higher Educational Institution" has the meaning assigned to it in the Universities Act. No. 16 of 1978;

"Ragging" means any act which causes or is likely to cause physical or psychological injury or mental pain or fear to a student or a member of the staff of an educational institution;

"Student" means a student of an educational institution;

"Sexual harassment" means the use of criminal force, words or actions to cause sexual annoyance or harassment to a student or a member of the staff, of an educational institution;

Regulations Relating to Examinations

Regulations made by the Senate of the University of Peradeniya and approved by the Council under Section 136 read with Sections 29, 45 and 46 of the Universities Act No. 16 of 1978 as amended by the Universities (Amendment) Act No.7 of 1985.

Examination of a course/course unit may consist of several assessment components (quizzes, within semester and end-semester examinations, term papers, assignments, etc.)

31.1 Regulations

These Regulations may be cited as the Examination Procedure, Offences & Punishment Regulation No.1 of 2008.

31.1.1 Part I - Examination Procedure

1. A candidate is expected to be outside the examination hall at least 15 minutes before the commencement of each paper, but shall not enter the hall until he/she is requested to do so by the supervisor.

2. On admission to the hall a candidate shall occupy the seat allotted to him/her and shall not change it except on the specific instruction of the Supervisor.

3. For examinations which have duration of one or more hours, a candidate shall not be admitted to the examination hall after the expiry of half an hour from the commencement of the examination. A candidate shall not be allowed to leave the hall until half an hour has elapsed from the commencement of the examination or during the last 15 minutes of the paper.

4. However, under exceptional circumstances or in cases where the duration of the examination is less than one hour, the supervisor in consultation with the Dean of the Faculty concerned may use

his discretion in the enforcement of Rule 3.

5. A candidate shall have his/her student record book/student identity card/admission card with him/her in the examination hall on every occasion he/she presents himself/herself for a paper. His/her candidature is liable to be cancelled if he/she does not produce the student record book/student identity card/admission card when requested to do so. If he/she fails to bring his/her student record book/student identity card /admission card, he/she shall sign a declaration in respect of the paper for which he/ she had not produced the student record book/student identity card/admission card in the form provided for it, and produce the student record book/student identity card/admission card to the Registrar or the relevant Senior Assistant Registrar/Assistant Registrar within the next three working days. If a candidate loses his/her student record book/student identity card/admission card during the examination period, he/she shall obtain a duplicate of student record book/student identity card/admission card as the case may be from the Registrar or relevant Senior Assistant Registrar/Assistant Registrar for production at the examination hall.

6. A candidate shall not have on his/her person or in his/her clothes or on the admission card, time-table, student record book/student identity card, any notes, signs or formulae, etc., except those items that are permitted. All unauthorized items which a candidate has brought with him/her should be kept at a place indicated by the Supervisor/Invigilator.

7. A candidate may be required by the supervisor to declare any item in his/her possession or person.

8. No candidate shall copy or attempt to copy from any book or paper or notes or similar material or from the scripts of another candidate. A candidate shall neither help another candidate nor obtain help from another candidate or any other person. A candidate shall not conduct himself/herself so negligently that an opportunity is given to any other candidate to read anything written by him/her or to watch any practical examination performed by him/her. No candidate shall use any other unfair means or obtain or render improper assistance at the examination.

9. If any candidate was found to have copied from another candidate by an examiner at the time of marking, he/she would be treated as having committed a punishable offence.

10. No candidate shall submit a practical book or field book or dissertation/thesis or project study or answer script or assignment which has been prepared wholly or partly by anyone other than the candidate himself/herself. This section, however, does not apply to group projects of students.

11. A candidate shall bring his/her own pens, ink, mathematical instruments, erasers, pencils or any other approved equipment or stationery which he/she has been instructed to bring. The use of a calculator will be permitted only for papers that contain a rubric to that effect.

12. Examination stationery (i.e., writing paper, graph paper, drawing paper, ledger paper, precis paper, etc.) will be supplied at the examination hall as and when necessary. No sheet of paper or answer book supplied to a candidate may be torn, crumbled, folded or otherwise mutilated. No papers other than those supplied to him/her by the Supervisor/Invigilator shall be used by candidates. All material supplied, whether used or unused, shall be left behind on the desk and not removed from the examination hall.

13. Every candidate shall enter his/her Index Number/Registration Number on each answer book and on every continuation paper. He/She shall also enter all necessary particulars as required. A candidate who inserts on script an Index Number/Registration Number other than his/her own is liable to be considered as having attempted to cheat. A script that bears no Index Number/ Registration Number, or has an Index Number/Registration Number which cannot be identified, is liable to be rejected. No candidate shall write his/her name or any other identifying mark on the answer script unless otherwise authorized.

14. All calculations and rough work shall be done only on paper supplied for the examination, and shall be cancelled and attached to the answer script. Such work should not be done on any other material. Any candidate who disregards these instructions runs the risk of being considered as having written notes or outline of answers with the intention of copying.

15. Any answer or part of an answer, which is not to be considered for the purpose of assessment, shall be neatly crossed out. If the same question has been attempted in more than one place the answer or answers that are not to be considered shall be neatly crossed out.

16. Candidates are under the authority of the supervisor and shall assist him/her by carrying out his/her instructions and those of the Invigilator during the examination and immediately before and after it.

17. Every candidate shall conduct himself/herself in the examination hall and its precincts as not to cause disturbance or inconvenience to the supervisor or his staff or to other candidates. In entering and leaving the hall, he/she shall conduct himself/herself as quietly as possible. A candidate is liable to be excluded from the examination hall for disorderly conduct.

18. Candidates shall stop work promptly when ordered by the Supervisor/Invigilator to do so.

19. Absolute silence shall be maintained in the examination hall and its precincts. A candidate is not permitted for any reason whatsoever to communicate or to have any dealings with any person other than the Supervisor/Invigilator. The attention of the Supervisor/Invigilator shall be drawn by the candidate by raising his/her hand from where he/she is seated.

20. During the course of answering a question paper no candidate shall be permitted to leave the examination hall temporarily. In case of an emergency, the Supervisor/Invigilator may grant him/her permission to do so but the candidate will be under his/her surveillance.

21. No person shall impersonate a candidate at the examination, nor shall any candidate allow himself/herself to be impersonated by another person.

22. Any candidate receiving unauthorized assistance from any person shall be deemed to have committed an examination offence.

23. If circumstances arise which in the opinion of the supervisor render the cancellation or postponement

of the examination necessary, he/she shall stop the examination, collect the scripts already written and then report the matter as soon as possible to the Dean of the relevant Faculty.

24. The Supervisor/Invigilator is empowered to require any candidate to make a statement in writing on any matter which may have arisen during the course of the examination and such statement shall be signed by the candidate. No candidate shall refuse to make such a statement or to sign it. If such a candidate refuses to make such a statement or refuses to sign it, the Supervisor/ Invigilator shall make his own statement and report the matter to the Dean of the relevant Faculty.

25. No candidate shall contact any person other than the Vice-Chancellor, Dean, Head of the Department, the Registrar or the relevant Senior Assistant Registrar regarding any matter concerning the examination.

26. Every candidate shall hand over the answer script personally to the Supervisor/Invigilator or remain in his/her seat until it is collected. On no account shall a candidate hand over his/her answer script to an attendant, a minor employee, or another candidate.

27. Every candidate who registers for a course/course unit shall be deemed to have sat the examination of that course/course unit unless he/she withdraws from the course/course unit within the prescribed period for dropping courses/course units. He/She should submit a medical certificate in support of his/her absence, prior to the commencement of the examination. If such a document cannot be submitted before the commencement of the examination, a candidate shall inform of his/her inability to attend the examination to the Dean of the Faculty within a week after the commencement of the examination. The medical certificate shall conform to the Senate Regulations. (See Appendix I.)

28. When a candidate is unable to be present for any part/section of an examination of a course/ course unit, he/she shall notify or cause to be notified this fact to the Dean of the Faculty and relevant Senior Assistant Registrar or Assistant Registrar immediately. This should be confirmed in writing with supporting documents by registered post within two weeks.

29. A student will be eligible for honours if all requirements for the award of honours are met within the prescribed period for the degree. However, candidates found guilty of an examination offence shall not be eligible for honours.

30. No student shall sit an examination of a course/course unit, if he/she has exhausted the number of attempts that he/she is allowed to sit that particular examination, unless he/she has been granted special permission to do so by the Dean of the relevant Faculty.

Deputy Proctor and Senior Student Counsellors - 2024

Title	Name	Telephone	E-mail
Deputy Proctor	Mr. Thasanthan Loganathan	077 2265751	thasanth@ahs.pdn.ac.lk
Senior Student Counsellor	Ms. S. Thilakarathne	070 3658894	shyamali.thilakarathne@ahs.pdn.ac.lk
Senior Student Counsellor	Ms. A.R.M.A.U. Rathnayake	070 2719901	anuradha@ahs.pdn.ac.lk
Senior Student Counsellor	Mr N.M.Y. Bagyawantha	071 2179296	bagyanmy@ahs.pdn.ac.lk
Senior Student Counsellor	Dr. S.I. Wadugodapitiya	070 6676767	surangikaw@pdn.ac.lk
Senior Student Counsellor	Dr. M.G.R.S. Perera	076 1316585	roshani@ahs.pdn.ac.lk
Senior Student Counsellor	Ms. I.L.U. Chandrasiri	076 16188072	lakmini@ahs.pdn.ac.lk

Facilities

University Health Centre

The University Health Center is a curative and preventive health care delivery unit, headed by the Chief Medical Officer. This service consists of an outpatient department (OPD), in-patient treatment facilities, including an infectious disease ward and a public health section all of which are geared to serve resident and non-resident students, employees, and their families. The preventive health section, under the supervision of public health inspectors, manages disinfection, cleaning, epidemiological work, vector control, food hygiene, waste disposal, environmental sanitation, water supply sanitation and health education.

Contact Information

Chief Medical Officer: Dr. Chandima Herath

Phone:	081-238 8152 (Direct) 2024 (Intercom) 2028 (Intercom: Office/Lab) 2022, 2026 (wards/pharmacy)
Opening:	8.30 a.m. to 4.00 p.m.; Saturdays 8.30 a.m. to 11.30 a.m. (OPD)

Student Services and Registration Division

Student Services Branch coordinates activities with all faculties and other service units of the University in order to provide various types of services to students. This Division assigns hostel facilities to students and coordinates the payment of Mahapola and Bursaries on time.

Contact Information:	Ms. C.K.K. Rathnayake, (Assistant Registrar) Phone: 081-2392431 (2322 Intercom)

Marshals' Division

Marshals' Division consists of a Chief Marshal, six Marshals and a Lady Marshal. The main function of the Marshals is to maintain discipline of students by keeping vigilance on their activities and bahaviour at the Faculties, Centres, Gymnasium, Playground and Halls under the direction of the Deputy Vice-Chancellor.

Contact Information: 081-2392423 (Direct) 2423 (Intercom)
Chief Marshal : 0771-924595 (Mr. W.A.A. Werahera)

0714-395666 (Mr. Rohana Gajaweera)
0718-314604 (Mr. M. Abeywickrama)
0718-293887 (Mr. H.M.C.S.B. Wanniarachchi)
0710-826883 (Mr. C. Kariyawasam)
0787-363780 (Ms. S.M.D.N.K. Seneviratne)
0774-332333 (Mr. S. Satheeswaran)
0766-901577 (Mr. S.P.L.P. Senanayaka)

Security Office – Near the New Arts Building

Contact Information:

081-2389182 (Direct) 2133 (Intercom)
2134 (Intercom) Chief Security Officer
2240 (Intercom) Deputy Chief Security Officer

Main Library

The Library of the University of Peradeniya originated in 1921 as the Library of the Ceylon University College. The Library was shifted to Peradeniya in 1952 and was moved to the present premises in 1960. After moving to Peradeniya, the Library developed into a library network comprising of the Main Library and seven other branch libraries at the faculties of Agriculture, Allied Health Sciences, Dental Sciences, Engineering, Medicine, Science and Veterinary Medicine and Animal Sciences. The ninth library is attached to the Faculty of Agriculture in Mahailuppallama sub-campus. The Main Library can be accessed by proceeding along new Galaha Road, passing the entrance to the Arts Theatre and turning right into the Senate Building. The Peradeniya University Library Network is the oldest and the largest university library in Sri Lanka. For more information, please visit **http://www.lib.pdn.ac.lk.**

Contact Information:	081-2392483 (Librarian, Counter 1 and Ground floor) 2480 (Intercom) (Counter II, First floor) 2481 (Intercom) (Short-Term Reference Counter

Opening hours: 7.15 am to 6.30 pm (weekdays); 8.00 am to 4.15 pm (Saturdays). These times may change during exam periods.

Information Technology Centre

The Information Technology Centre (ITC) was established in 2004 as a part of ICT Skills Development Programme of the University. One of the main objectives of this Centre is to provide opportunities for undergraduates and other members of the University community to improve their ICT skills. The centre offers numerous part-time and regular training programmes.

Contact Information:	Reception Counter Intercom: Office 2070, 2900, 2906
Opening hours:	8.00 a.m. to 10.00 pm
Service & facilities:	Computer facilities with Internet access. Students need to register and obtain their account passwords prior to using the facilities in the Center
Location:	Behind the WUS Building Complex near the Gymnasium

Department of Physical Education and Gymnasium

The Department of Physical Education, the sports governing body of the University of Peradeniya, aims to instill the life-long practice of sport and other recreational activities among undergraduates so that they may engage in self-improvement and enjoy the health benefits. In order to achieve these objectives the Department organizes various sports programmes, competitions, lectures, workshops and some foreign tours.

Contact Information	Intercom 2164 - Prof. N.W.B. Balasooriya (Acting Director/Physical Education)
	Intercom 2162 (Office)
	Intercom 2163 (Swimming Pool)
Opening hours:	7.00 a.m. to 8.00 pm
Service and facilities:	Indoor sport facilities, swimming pool, fitness center
	Organizes faculty, university and inter-university level sports tournaments

Notes: