

## B.Sc. in Paramedics

### Study Plan

#### ■ University Compulsory Courses 16 C.H

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#### ■ University Elective Courses 9 C.H

Pages ( 64 & 65 )

#### ■ Faculty Compulsory Courses 27 C.H

Line No.	Code	Course	
102181	MED218A	GROSS ANATOMY & HISTOLOGY	3
102182	MED218B	GROSS ANATOMY & HISTOLOGY (LAB)	0
102304	MED230A	HUMAN PHYSIOLOGY	3
102305	MED230B	HUMAN PHYSIOLOGY (LAB)	1
103021	MED302A	MEDICAL ETHICS	1
183111	PH311A	BIOSTATISTICS	2
911031	CHEM103A	GENERAL CHEMISTRY	3
911072	CHEM107B	GENERAL CHEMISTRY LAB	1
921031	PHY103A	GENERAL PHYSICS	3
931030	BIO103	GENERAL BIOLOGY	3
931070	BIO107	GENERAL BIOLOGY (PRACTICAL)	1
1114580	P.T458	MANAGEMENTS IN ALLIED MEDICAL SCIENCES	3
1731160	CS116	SELECTED PROGRAMMING LANGUAGES (FOR NON COMPUTER SCIENCE INFORMATION STUDENTS)	3

#### ■ Department Compulsory Courses 85 C.H

Line No.	Code	Course	
102121	MED212A	PATHOLOGY	3
102222	MED222B	BIOCHEMISTRY	3
102234	MED223D	BIOCHEMISTRY (LAB)	1
102261	MED226A	NEUROSCIENCE (1)	3
102262	MED226B	NEUROSCIENCE 1 (LAB)	0
102422	MED242B	MICROBIOLOGY	3
102430	MED243	MICROBIOLOGY (LAB)	1
131020	PARA102	PSYCHOLOGY AND SOCIOLOGY FOR PARAMEDIC	3
132000	PARA200	HEALTH ASSESSMENT	3
132001	PARA200	HEALTH A ASSESSMENT (LAB)	0
132020	PARA202	ANATOMY AND PHYSIOLOGY OF PULMONARY-CARDIOVASCULAR SYSTEM	3
132021	PARA202	ANATOMY AND PHYSIOLOGY OF PULMONARY- CRADIOVAS (LAB)	0
132040	PARA204	INTRODUCTION TO PARAMEDICS	1
132060	PARA206	PHARMACOLOGY	3
133030	PARA303	INTRODUCTION TO CLINICAL MEDICINE FOR PARAMEDICS	3
133040	PARA304	PARAMEDIC MANAGEMENT OF TRAUMA EMERGENCIES	4
133041	PARA304	PARAMEDIC MANAGEMENT OF TRAUMA EMERGENCIES (LAB)	0
133050	PARA305	PARAMEDIC MANAGEMENT OF RESPIRATORY EMERGENCIES	3
133060	PARA306	PARAMEDIC MANAGEMENT OF MEDICAL AND SURGICAL EMERGENCIES	4
133061	PARA306	PARAMEDIC MANAGEMENT OF MEDICAL AND SURGICAL EMERGENCIES (LAB)	0

133070	PARA307	PARAMEDIC MANAGEMENT OF CARDIOVASCULAR EMERGENCIES	3
133090	PARA309	PARAMEDIC COMMUNICATION SKILLS	2
133110	PARA311	COMPUTER APPLICATIONS IN PARAMEDICS	2
133130	PARA313	PHYSICAL FITNESS AND WELLNESS	2
133131	PARA313	PHYSICAL FITNESS AND WELLNESS (LAB)	0
133200	PARA320	CARDIO PULMONARY RESUSCITATION	3
133201	PARA320	CARDIO PULMONARY RESUSCITATION (LAB)	0
133220	PARA322	INTRODUCTION TO DIAGNOSTIC MEDICAL IMAGING	2
133240	PARA324	PARAMEDIC MANAGEMENT OF OBSTETRIC - PEDIATRIC EMERGENCIES	3
133241	PARA324	PARAMEDIC MANAGEMENT OF OBSTETRIC - PEDIATRIC EMERGENCIES(LAB)	0
134010	PARA401	INTRODUCTION TO CIVIL DEFENSE	3
134011	PARA401	INTRODUCTION TO CIVIL DEFENSE LAB	0
134030	PARA403	PARAMEDIC MANAGEMENT OF INFECTIOUS, TOXIOLOGICAL AND ENVIRONMENTAL EMERGENCIES	3
134031	PARA403	PARAMEDIC MANAGEMENT OF INFECTION, TOXIOLOGICAL AND ENVIROMENRTAL EMERGENCIES LAB	0
134070	PARA407	PARAMEDIC MANAGEMENT OF GERIATRIC EMERGENCIES	2
134080	PARA408	FIELD PRACTICUM	8
134090	PARA409	PARAMEDIC MANAGEMENT OF DENTAL , ORAL AND MAXILLOFACIAL TRAUMA	1
134100	PARA410	RESEARCH PROJECT	1
134110	PARA411	PARAMEDIC MANAGEMENT OF NEUROLOGICAL AND PSYCHOLOGICAL EMERGENCIES	3
134111	PARA411	PARAMEDIC MANAGEMENT OF NEUROLOGICAL AND PSYCHOLOGICAL EMERGENCIES	0
134130	PARA413	AMBULANCE VEHICLE OPERATION AND SAFETY	2
134131	PARA413	AAAA	0
134150	PARA415	PATIENT TRANSPORTATION	1
912170	CHEM217	ORGANIC CHEMISTRY	3

**TOTAL 137 C.H**

**\* For prerequisite & equivalent courses see the Courses' Description.**

## B.Sc. in Paramedics

### Courses' Description

#### Para 102 Psychology and sociology for paramedics 3 C.H

This course will cover the following contents:

##### Psychology:

- Definition and scope of psychology.
- Paradigms in psychology.
- Issues, debates and controversies in psychology.
- In introduction to physiological psychology.
- An introduction to cognitive psychology.
- An introduction to developmental psychology.
- An introduction to individual differences.

##### Sociology :

- An introduction to sociology as a discipline.
- Overview of the main perspectives.
- Relevance of sociology to health care.
- An introduction to the central components of socialization and cultural variations.
- Culture, values and belief systems within the context of health and illness.
- Introduction to the components of stratification.
- Social processes and defining disease - deviance, sick role and stigma.  
(Prerequisite: None)

#### Para 200 Health Assessment 3 C.H

This course provides the student with necessary knowledge and skills to conduct a complete health history and systematic health assessment for adults. A systematic approach to assessment of physiological, psychological, and developmental aspects is utilized taking into consideration the individual's sociocultural context. Students are expected to recognize normal physical findings and variations in health, as well as common relevant laboratory and diagnostic tests, and common drugs. Students will have the opportunity to learn and practice these health history and systematic physical assessment skills in the laboratory setting.  
*Prerequisite: Med 218, Med 230a or co requisite.*

#### Para 202 Anatomy and physiology of pulmonary and cardiovascular system 3 C.H

Lectures and instructional materials will emphasize the anatomy and physiology of the heart, blood vessels, pulmonary system and analysis of blood content. Topics will cover the regulatory mechanisms involved in controlling these systems. Overview of the symptoms, assessments, and therapeutic approaches of the cardiovascular / pulmonary disorders will also be presented. (*Prerequisite Med 230 a, Med 218*)

#### Para 204 Fundamentals of Paramedics 3 C.H

Prepares the paramedic student in the basic knowledge and skills needed in the pre-hospital environment. Topics covered include roles and responsibilities of the paramedic, medical legal considerations, communications, rescue and disaster operations, initial patient assessment and management of emergency patients. Concepts of wellness, disease and injury prevention, ethics and legal issues are addressed. (*Prerequisite Med 230 a*)

#### Para 206 Pharmacology 3 C.H

This course is designed to provide students with a basic knowledge of drug classifications, categories, and mechanism of action, implications of use and paramedic responsibilities; drug interactions and adverse reactions; dosage computations and measurements; adult,

pediatric and geriatric medication considerations. Students will also become familiar with intravenous therapy and clinical experiences in the administration of intravenous therapy and drugs employed by the Advanced Care Paramedics. (*Prerequisite Med 230 a, Med 222*)

#### Para 303 Introduction to Clinical Medicine for Paramedics 3 C.H

This course provides the students with basic knowledge about clinical internal medicine. This includes the major symptoms, signs, laboratory investigations, and their basic management for certain disease entities and injuries. Students will also be provided with the knowledge and skills required for treating victims of sudden illness or injury as pre-hospital care givers, role & responsibilities of flight nurse, and current trends in trauma management. (*Prerequisite Med 230 a, Med 212, Para201 & 206*)

#### Para 304 Paramedic management of Trauma emergencies 4 C.H

This course provides an intense study in the pathophysiology and the management of trauma to include assessment of the trauma patient, management of head injuries, spinal cord, cervical spine, and general seizures; abdominal injuries, burn injuries, orthopedic injuries, management of the multi-trauma patient, and management of the various types of shocks.  
(*Prerequisite, Para204, Para 303*)

#### Para 305 Paramedic management of respiratory emergencies 3 C.H

The focus on this course is pathophysiology, assessment, and management of the respiratory system. Skills will include a review of interpretation of breath sounds, acid-base balance and using automated transport ventilators. The learner will have a comprehensive understanding of the various conditions that place a patient in respiratory distress and impede his ability to breathe. The knowledge gained in this module will assist the paramedic in the assessment and treatment of sudden and acute different special airway and chest injuries. (*Prerequisite202, Para204, Para 303 or co requisite*)

#### Para 306 Paramedic management of medical and surgical emergencies 4 C.H

This course covers some of the most common medical and surgical emergencies seen in ambulance practice. Topics include the epidemiology, prevention, integrated and definitive care, pathophysiology, assessment and clinical management of patients suffering genitourinary, metabolic, endocrine, neurological and gastrointestinal disease. Theory is supplemented by simulation and scenario based activities under the supervision of clinical educators. (*Prerequisite Para 204, Para 303*)

#### Para 307 Paramedic management of cardiovascular emergencies 3 C.H

This course Provides study in the pathophysiology and management of cardiovascular disease and related emergencies. Topics include review of anatomy and physiology of the heart and circulatory system, basics of electrophysiology, assessment of the cardiac patient, pathophysiology of atherosclerosis, specific conditions resulting from atherosclerotic heart disease, peripheral vascular emergencies, pharmacologic intervention, dysrhythmia recognition, and specific management of cardiac emergencies. (*Prerequisite 202, Para204,( Para 303 or co requisite*)

**Para 308 Paramedic clinical practice I 4 C.H**

This unit is the first in a series of supervised clinical practice units. Topics include the following: assessing, diagnosing, planning, implementing and evaluating patient care in the out of hospital phase; effective scene management including logistics, safe access and egress, and patient extrication techniques; written and oral communication including patient interviews, radio procedures, writing ambulance report forms and patient handover at hospital. The placement provides a transition from observer to operational ambulance crew member under the supervision of a qualified paramedic mentor. *(Prerequisite Para 305 , Para307)*

**Para 309 Paramedic communication skills 2 C.H**

Paramedics require advanced skills in communication to face necessary for developing effective communication skills which enable a paramedic to establish an accurate and efficient clinical history, to provide support to patients at times of accurate stress and to understand his or her own responses to situations. Topics covered include basic communication skills; models and processes in communication; communication with special needs patients (eg with acute mental illness; developmental disabilities or sensory deficits; angry, distressed or intoxicated patients; children and the elderly); building cooperative relationships with patients and colleagues. *(Prerequisite Para 102 )*

**Para 310 Advanced Cardiac Life Support 3 C.H**

This course covers in depth Paramedic management of pulmonary- cardiovascular emergencies. This course provides pathophysiology, and management of the cardiovascular system. All components of Advanced Cardiac Life Support will also be covered. Skills will include 3 and 12 Lead ECG, electrical therapy and medication administration. Understanding the cardiovascular system anatomy and physiology allows for integration and understanding of treatment modalities by the pre-hospital provider. It provides a systematic approach to the management of life threatening cardiac and respiratory emergencies. *(Prerequisite Para 305, Para 307)*

**Para 401 Paramedic management of Psychosocial and Behavioral emergencies 2 C.H**

This course will examine the management principals for the patient with a variety of neurological and psychological conditions. This course also presents information and provides practice situations from the paramedic perspective related to the emotional aspects of illness and injury, emergencies of behavioral origin, drug maintenance related to behavioral emergencies, management techniques for suicidal situations and rape crisis. *(Prerequisite Med 226 , Para 303)*

**Para 402 Paramedic management of Geriatric emergencies 2 C.H**

This course will examine the unique anatomical and physiological changes that occur among the geriatric population. It will also address the pathophysiology, communication, and treatment considerations for emergency injuries that affect this age group. *(Prerequisite Para 303 )*

**Para 403 Paramedic management of infectious, oxicological, and environmental emergencies 3 C.H**

This course covers the management of patients with a range of challenging etiologies including extremes in environmental conditions, toxicological emergencies including overdose, poisoning and acute infectious disease. Topics include the epidemiology, integrated and definitive care, pathophysiology, assessment and clinical management of patients with toxicological, infectious and environmental illness. *(Prerequisite Med 242, Para 303 )*

**Para 405 Paramedic management of Obestetric/Peadiatric emergencies 3 C.H**

This course provides the student with the opportunity to participate in normal and abnormal obstetrical problems. Anatomy and physiology of the female reproductive system, assessment of the gynecologic patient, deliveries (normal, abnormal and complicated), and routine care of the neonate, care of distressed infant, neonatal emergencies, and neonatal transport patient interviewing are dressed. *(Prerequisite Para 303)*

**Para 406 Research Project 2 C.H**

The course is to develop an understanding for research methodology. At the end of semester each group of students should present a seminar related to Paramedics of certain topic based on related research and literature. The course is given as two C.H of theory per week. *(Prerequisite none)*

**Para 407 Paramedic clinical practice (2) 4 C.H**

This unit continues on from Para 308. This unit provides work integrated learning experience in a supervised out of hospital environment. Students learn to apply standard ambulance management at non-complex scenes with straightforward clinical presentations and gain confidence in managing patients. *(Prerequisite Para 308 )*

**Para 408 Paramedic clinical practice (3) 5 C.H**

This unit follows on from previous clinical practice units and develops students towards the role of beginner practitioner and qualified ambulance paramedic under the supervision of a qualified paramedic mentor. Students are expected to function as an operational crew member under minimal direction taking the lead in more complex scenarios. *(Prerequisite Para 407)*