

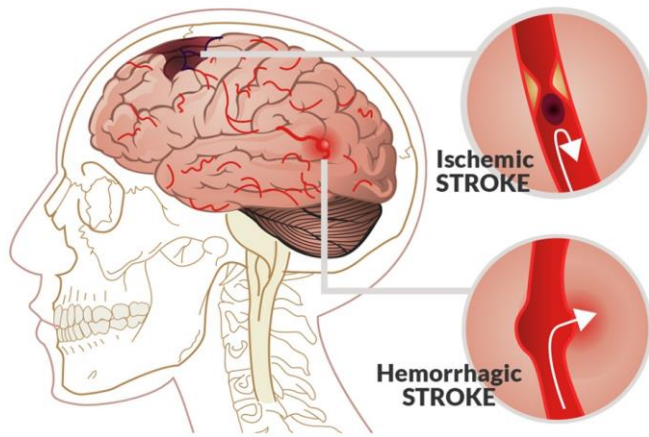
STUDY GUIDE

NEUROSCIENCES-II & PSYCHIATRY MODULE

FOURTH YEAR MBBS

10th June – 27th July 2019

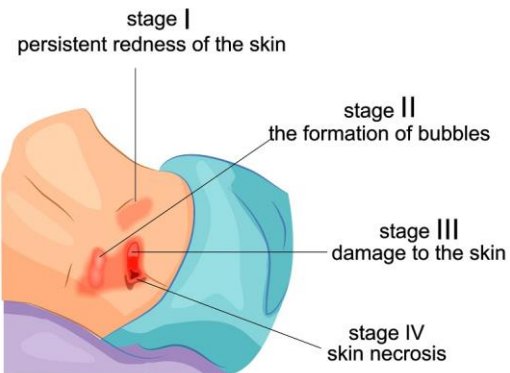
Duration: 8 weeks



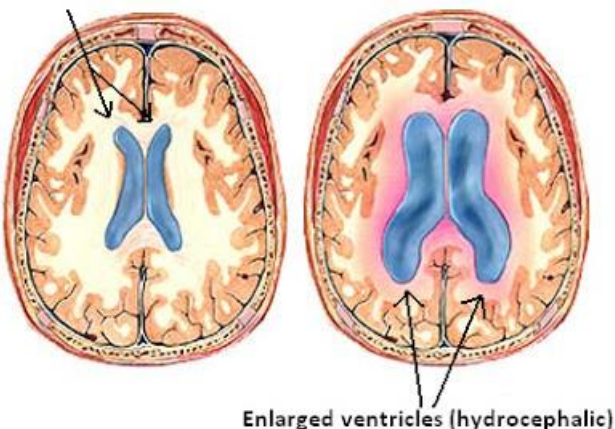
STROKE



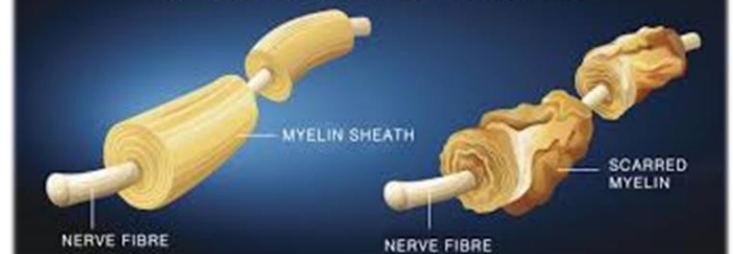
PRESSURE ULCERS



Normal ventricles



Multiple Sclerosis - Demyelination



**LIAQUAT NATIONAL HOSPITAL
& MEDICAL COLLEGE**



STUDY GUIDE FOR NEUROSCIENCES-II & PSYCHIATRY MODULE

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Module name: Neurosciences-II & Psychiatry

Year: **Four**

Duration: **8 weeks (June-July 2019)**

Timetable hours: Interactive Lectures, Case-Based Discussion (CBD), Clinical Rotations, Presentations, Demonstrations, Skills, Self-Study

MODULE INTEGRATED COMMITTEE

MODULE COORDINATOR:	Dr. Naveed Uddin Ahmed (Neurology)
CO-COORDINATOR:	Dr. Sobia Ali (DHCE) Dr. Rajesh Kumar (Neurology)

DEPARTMENTS' & RESOURCE PERSONS' FACILITATING LEARNING

BASIC HEALTH SCIENCES	CLINICAL AND ANCILLARY DEPARTMENTS
COMMUNITY MEDICINE • Dr. Saima Zainab	BIOETHICS • Dr. Saleha Shehzad
PHARMACOLOGY • Professor Nazir Ahmed Solangi • Professor Tabassum Zehra	FAMILY MEDICINE • Dr. Faridah Amin
PATHOLOGY • Professor Naveen Faridi • Dr. Atif Hashmi	NEUROLOGY • Dr. Naveed Uddin Ahmed • Dr. Rajesh Kumar
	NEUROSURGERY • Dr. Aamir Saghir
	PEDIATRICS • Professor Samina Shamim • Dr. Raman Kumar
	PSYCHIATRY • Dr. Mahmood Rahman
	RADIOLOGY • Dr. Muhammad Misbah Tahir
	PLASTIC SURGERY • Dr. Shehab Afzal Beg
	SKILLS LAB • Dr. Kahkashan Tahir
DEPARTMENT of HEALTH PROFESSIONS EDUCATION	
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LNH&MC MANAGEMENT	
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STUDY GUIDE COMPILED BY:	
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INTRODUCTION

WHAT IS A STUDY GUIDE?

It is an aid to:

- Inform students how student learning program of the module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules and regulations

THE STUDY GUIDE:

- Communicates information on organization and management of the module.
This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings, clinical skills, demonstration, tutorial and case based learning that will be implemented to achieve the module objectives.
- Provides a list of learning resources such as books, computer assisted learning programs, web- links, journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's achievement of objectives.
- Focuses on information pertaining to examination policy, rules and regulations.

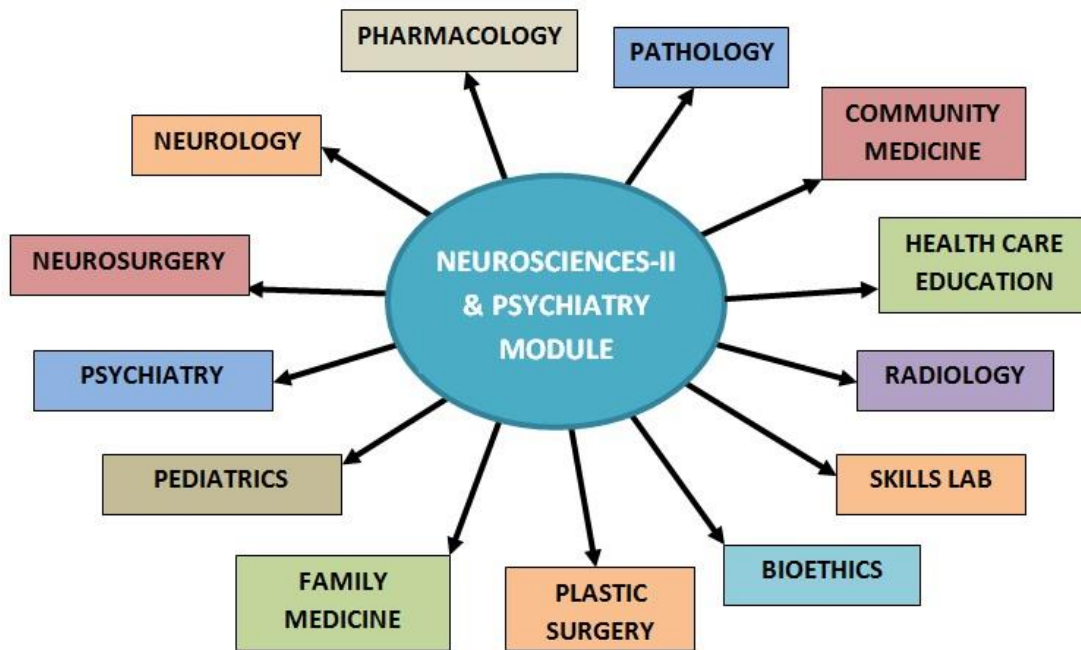
CURRICULUM FRAMEWORK

Students will experience *integrated curriculum* similar to previous modules.

INTEGRATED CURRICULUM comprises system-based modules such as Eye/ENT, dermatology, genetics, rehabilitation and neurosciences-II & psychiatry modules which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples.

LEARNING EXPERIENCES: Case based integrated discussions, Task oriented learning followed by task presentation, skills acquisition in skills lab, computer-based assignments, learning experiences in clinics, wards.

INTEGRATING DISCIPLINES OF NEUROSCIENCES-II & PSYCHIATRY MODULE



LEARNING METHODOLOGIES

The following teaching / learning methods are used to promote better understanding:

- Interactive Lectures
- Small Group Discussion
- Case- Based Discussion (CBD)
- Clinical Experiences
 - Clinical Rotations
- Skills session

INTERACTIVE LECTURES: In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

SMALL GROUP SESSION: This format helps students to clarify concepts, acquire skills or desired attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials and self study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

CASE-BASED DISUCSSION (CBD): A small group discussion format where learning is focused around a series

of questions based on a clinical scenario. Students' discuss and answer the questions applying relevant knowledge gained previously in clinical and basic health sciences during the module and construct new knowledge. The CBD will be provided by the concern department.

CLINICAL LEARNING EXPERIENCES: In small groups, students observe patients with signs and symptoms in hospital wards, clinics and outreach centers. This helps students to relate knowledge of basic and clinical sciences of the module and prepare for future practice.

- **CLINICAL ROTATIONS:** In small groups, students rotate in different wards like Medicine, Pediatrics, Surgery, Obs & Gyne, ENT, Eye, Family Medicine clinics, outreach centers & Community Medicine experiences. Here students observe patients, take histories and perform supervised clinical examinations in outpatient and inpatient settings. They also get an opportunity to observe medical personnel working as a team. These rotations help students relate basic medical and clinical knowledge in diverse clinical areas.

SKILLS SESSION: Skills relevant to respective module are observed and practiced where applicable in skills laboratory.

SELF-DIRECTED STUDY: Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

MODULE 5: NEUROSCIENCES-II & PSYCHIATRY

INTRODUCTION

Neurological disorders are diseases of the central and peripheral nervous system. The jurisdiction starts from Cerebral cortex and moves down through brain stem, spinal cord, cranial nerves, peripheral nerves, nerve roots, autonomic nervous system, neuromuscular junction, and finally involves muscles.

This module will provide students with a multidisciplinary approach to understanding the etiology of neurological and mental disorders. Neurological problems are the leading cause for disability globally. An estimated 1-billion people around the world have a neurological disorder or disease, which is almost 15-percent of the world's population. According to WHO more than 6 million people die because of stroke each year; over 80% of these deaths take place in low- and middle-income countries. Psychiatric disorders are also major human toll of ill health. According to 2012 WHO data, Neuro-Psychiatric disorders are among 12 leading causes of disability and death in Pakistan.

In this module students will learn about the etiology of common disorders encountered by neurologists and psychiatrists and develop comprehensive understanding of the biological, pathological, psychological and social factors behind these disorders. The basis for pharmacological treatments for conditions such as epilepsy, Parkinson's disease and schizophrenia will also be discussed.



COURSE TOPICS, OBJECTIVES AND STRATEGIES

By the end of Rehabilitation module students should be able to:

1. COMMUNITY MEDICINE	
OBJECTIVES	TEACHING STRATEGY
1.1 Research Methodology	
Discuss research methodology	Interactive lecture
Enumerate steps of research methodology	
Explain the study setting, target population, Sample size, ethical review	
1.2 Sampling Techniques	
Define Sampling	Small group session
Explain process of sampling and Importance of sampling & Types of sampling techniques	
1.3 Data Analysis	
List the Tools of data analysis	Interactive lecture
Discuss the Types of data analysis & Statistical test used in data analysis	
1.4 Writing Discussion	
Discuss the Functions of Discussion & Structure of Discussion	Interactive lecture
Differentiate discussion from results	
1.5 Report writing	
Discuss the over view of report writing	Interactive lecture
Enumerate the steps for report writing, Essential component of report writing	
Explain the Evaluation of report writing	
1.6 Prevention	
Describe the goals and functions of health system in provision of the services for Neurological disorders	Interactive lecture
Describe application of the principles of the public health on Neurological disorders	Interactive lecture
2. PHARMACOLOGY	
OBJECTIVES	TEACHING STRATEGY
2.1 Sedatives & Hypnotics-I Benzodiazepines, Sedatives & Hypnotics-II Barbiturates & Others	
Classify the drugs used as Sedatives & Hypnotics	Small group session
Discuss the basic & clinical pharmacology of those Sedatives & Hypnotics drugs	
2.2 Drug used in migraine	
List the drugs used in migraine	Interactive lecture
Discuss the basic & clinical pharmacology of those drugs	
2.3 Drugs of General anesthetics I&II	
Discuss the drugs used as pre anesthetic medications	CBIL
Classify the drugs used as General anesthetics	
Discuss the basic & clinical pharmacology of those Drugs	

2.4 Local anesthetics	
List the drugs used in local anesthetics	CBIL
Classify the drugs used as local anesthetics	
Discuss the basic & clinical pharmacology of those Drugs and their differences	
2.5 Anti-epileptic drugs	
Classify the drugs used in epilepsy	CBIL
Discuss the basic & clinical pharmacology of those drugs	
2.6 Anti-psychotic drugs	
Classify antipsychotic drugs according to different aspect	CBIL
Discuss the basic & clinical pharmacology of those drugs	
2.7 Antidepressant drugs	
Classify the Antidepressant Drugs	Interactive lecture
Discuss the basic & clinical pharmacology of those drugs	
2.8 CNS Stimulants and hallucinogens	
List different classes of CNS stimulants and hallucinogens	Small Group Session
Discuss the basic & clinical pharmacology of those drugs	
2.9 Anti-Parkinson drugs	
Classify the Anti-Parkinson Drugs	CBIL
Discuss the basic & clinical pharmacology of those drugs	

3. PATHOLOGY AND MICROBIOLOGY	
OBJECTIVES	TEACHING STRATEGY
3.1 Reaction of neurons and glial cells to injury, cerebral hypoxia & cerebral edema	
Describe the pathophysiology of hypoxia and cerebral edema	Interactive lecture
Discuss the role of microglia in CNS inflammation and repair.	
Explain all the types of glial cells, their normal functions, and their reactions to injury	
3.2 Degenerative diseases of cerebral cortex like Alzheimer's disease	
Name six neurodegenerative diseases of cerebral cortex	Interactive lecture + Small group session
Discuss the role of environmental factors in the pathogenesis of Alzheimer's disease	
3.3 Brain tumors	
List atleast four genetic conditions associated with brain tumors	Small group session + Interactive lecture
Explain their inheritance pattern and the most common tumors associated with each	
Describe the key gross and microscopic differences between different brain tumors	
Describe the pathological diagnostic criteria for brain tumors	
3.4 Diseases of skeletal muscles	
Describe and define diseases of the Neuromuscular Junction with special reference to pathophysiology of Myasthenia gravis.	Small group session + Interactive lecture
Describe the Neurogenic and Myopathic Changes in Skeletal Muscle	
Differentiate among various Inherited Diseases of Skeletal Muscle (including X-Linked Muscular Dystrophy with Dystrophin Mutation/ Duchenne and Becker Muscular	

Dystrophy) on the basis of pathophysiology	
Enumerate various Specific Peripheral Neuropathies including Inflammatory Neuropathies (Poliomyelitis)	
Describe the pathophysiology of Poliomyelitis	
3.5 Common pathogens of nervous system with special references to different age groups	
List the most common organisms that cause CNS infection in different age groups	Interactive lecture + lab visit (Microbiology)
Describe the pathogenesis, etiologic agents, cellular reactions, type and location of pathologic changes, signs and symptoms (where applicable), age group affected	
Describe CSF findings of bacterial meningitis, tuberculous meningitis, fungal infections, viral diseases of nervous system and encephalitis	

4. NEUROLOGY	
OBJECTIVES	TEACHING STRATEGY
4.1 Investigation of neurological disorder	
List various neuro imaging techniques	Interactive lecture
List uses of various neurophysiological investigations (EMGs, NCS, EEG)	
Discuss the indications, contra-indications and process for lumbar puncture	
Interpret CSF reports of common conditions	
Perform cranial nerve examination	Skill training session
Perform fundoscopic examination	
4.2 Lesion localization	
localize the likely site or sites in the nervous system where a lesion could produce a patient's symptoms and signs	Interactive lecture
List the differential diagnosis based on lesion localization	
4.3 Lesion of cranial nerve	
Name causes of cranial nerve pathologies	Interactive lecture
Diagnose common cranial nerve lesions that would explain losses of function in the cranial nerves	
Relate cranial nerve deficits to damage of adjacent, unrelated structures	
4.4 Approach to coma	
Discuss pathophysiology of coma & altered mental status	Interactive lecture
Assign Glasgow Coma Scale score to a given case scenario	
Discuss assessment findings associated with coma & altered mental status	
Discuss management of coma & altered mental status	
4.5 Approach to headache & Primary headaches (trigeminal, autonomic cephalgia's)	
Define primary headache syndrome	Interactive lecture
Classify headaches	
Differentiate among different patterns of Headache.	
Describe the process of history taking of a patient with headache	
Diagnose migraine and tension headache based on written data provided	
Discuss management plans for migraine and tension headache	

4.6 Secondary headaches	
Discuss differential diagnosis and appropriate diagnostic evaluation for common pain presentations	Interactive lecture
List the Red flag signs of secondary headache	
Describe the classic presentations of trigeminal neuralgia	
Differentiate between common clinical findings seen in trigeminal neuralgia and other facial pain syndromes	
4.7 Seizures disorders	
Classify seizures clinically	Interactive lecture
Discuss pathophysiology of seizures	
Discuss assessment findings associated with seizures	
Describe & differentiate major types of seizures	
List most common causes of seizures	
Discuss pharmacological treatment of seizures	
Define epilepsy & status epilepticus	
Describe common side effects of AEDs	
4.8 Cerebrovascular Accidents - I (Stroke)	
Define the terms stroke/ Cerebrovascular Accidents (CVA) & Transient Ischemic Attack(TIA)	Interactive lecture+ Small group session
Describe causes of stroke	
Distinguish ischemic stroke (cerebral infarct) from hemorrhagic stroke (intracerebral hemorrhage) in terms of etiology and pathology	
Discuss assessment findings associated with stroke, TIA	
Identify the signs & symptoms related to TIA	
4.9 Cerebrovascular Accidents - II (Stroke)	
Discuss the complication of Cerebrovascular Accidents	Interactive lecture
Discuss the management plan of Cerebrovascular Accidents	
4.10 Acute CNS infections	
Differentiate b/w acute and chronic CNS infections based on data provided	Interactive lecture
Describe the clinical features & investigations of acute CNS infections	
Summarize the characteristics of the causative organisms	
Describe the possible complications of acute CNS infection if left untreated	
Explain the treatment plan for acute CNS infections	
4.11 Chronic CNS infections	
Name the common CNS infections	Interactive lecture
List the common chronic CNS infections	
Describe common anatomical locations of MS plaques, and parts of the CNS that are particularly prone to developing lesions.	
Discuss the pathogenesis of MS.	
Interpret the CSF studies in a patient CNS infection	

4.12 Approaches to movement disorders	
State the etiologies and pathogenesis of movement disorders (Parkinson's disease, essential tremors, Huntington's disease, tics, medication induced dyskinesia)	interactive lecture
Describe the presentation of a patient with movement disorders	
List the Differential diagnosis of movement disorders	
4.13 Parkinson's disease (PD) & Parkinson plus syndrome	
Discuss the clinical features of Parkinson's disease	Small group session
Discuss approach to a patient with PD	
Summarize the differential diagnosis of Parkinson's disease	
Outline the principles of drug management of Parkinson's disease	
4.14 Multiple sclerosis (MS) and other demyelinating diseases	
List the common CNS and PNS demyelinating diseases	Interactive lecture
Describe common anatomical locations of MS plaques, and parts of the CNS that are particularly prone to developing lesions	
Discuss the pathogenesis of MS	
Interpret the CSF studies are ordered in a patient suspected of MS	
4.15 Approach to neuropathies and Guillain-Barre syndrome (GBS)	
Name at least two laboratory studies that are useful in the diagnosis of peripheral neuropathy	Interactive lecture
List the most common inherited neuropathies	
Differentiate between axonal and de-myelinated neuropathy	
State the most common cause of neuropathy	
Diagnose hereditary peripheral neuropathies based on pathological findings	
Formulate an approach to the evaluation and differential diagnosis of a patient with peripheral neuropathy	
Describe the clinical presentation and pathological findings of the Guillain-Barre syndrome(GBS)	
Discuss its pathogenesis	
Describe two key laboratory abnormalities in the GBS.	
4.16 Myasthenia Gravis	
Describe the pathophysiology of Myasthenia gravis	Small group session
Explain the clinical presentation & investigations for Myasthenia Gravis	
Discuss the long-term management of Myasthenia Gravis	
Discuss the management of Myasthenia Crisis	
4.17 Dementia	
State the causes, clinical presentation investigations of dementia	Interactive lecture
List the differential diagnosis of dementia	
Describe the principles of management of dementia	

4.18 Muscular dystrophies	
Define Muscular dystrophies	Interactive lecture
Classify its type	
List the causes & clinical features of Muscular dystrophies	
Name the investigations related to Muscular dystrophies	
Discuss the management plan of Muscular dystrophies	
Discuss the complication of Muscular dystrophies	

5. NEUROSURGERY	
OBJECTIVES	TEACHING STRATEGY
5.1 Introduction of Neuro critical care	
Define Neuro critical care	Small group session
Classify neuro critical care	
Discuss investigations related to neuro critical care	
5.2 Congenital disorders of CNS: Neural tube defects	
Define Neural tube defects	Interactive lecture
List the causes of Neural tube defects	
Classify Neural tube defects	
List the investigations related to neural tube defect	
Discuss the clinical features & complications of neural tube defect	
Discuss the management plan of neural tube defect	
5.3 Hydrocephalus & its Management	
Define Hydrocephalus	Interactive lecture
List common symptoms and signs of acute hydrocephalus in children.	
List common symptoms and signs of normal pressure hydrocephalus in adults.	
Define communicating and non-communicating hydrocephalus	
Describe the differences in the treatments	
5.4 Traumatic spinal cord injury	
Describe the initial assessment of a patient with head injury	Interactive lecture
5.5 Raised Intra Cranial Pressure(ICP)	
Identify the symptoms and signs of raised ICP	Interactive lecture
Describe the evaluation of a patient with raised ICP with reference to Space Occupying Lesion (SOL)	

5.6 Brain tumors	
Define brain tumors	Interactive lecture
Classify brain tumors	
List the causes & clinical features of brain tumors	
Name the investigations related to brain tumors	
Discuss the management plan of brain tumors	
Discuss the complication of brain tumors	
5.7 Spinal tumors	
Define spinal tumors	Interactive lecture
Classify spinal tumors	
List the causes & clinical features of spinal tumors	
Name the investigations related to spinal tumors	
Discuss the management plan of spinal tumors	
Discuss the complication of spinal tumors	

6. RADIOLOGY	
OBJECTIVES	TEACHING STRATEGY
6.1 CT Scan Brain	
Describe the role of radiographic imaging studies in diagnosis and management of stroke patients	Small Group Session
Identify the following:	
i. normal cranial and neurological anatomy	
ii. skull fracture,	
iii. extra-cerebral blood on CT	
iv. intracranial blood on CT.	
v. appearance of both hemorrhagic and ischemic strokes on MRI Brain	
Identify the radiological features of normal and diseased spine and vertebral column	
6.2 Neuro radiology of brain tumor, head injury and hydrocephalus	
Describe the role of the diagnostic radiological modalities in the evaluation of patients with brain tumor, head injury and hydrocephalus	Small Group Session
List the advantages and limitations of the following diagnostic tools used in the evaluation of brain tumors:	
✓ plain skull radiographs	
✓ plain spine radiographs	
✓ CT scan of head or spine	

7. PSYCHIATRY	
OBJECTIVES	TEACHING STRATEGY
7.1 Biopsychic social model & non-pharmacological intervention	
Define Role of biological, physiological and social factors in custom continuation and healing of illness	Interactive Lecture
Discuss the management of illness	
List the role of personality, attitudes, attributes, impact of family society, social factors and cultures on the etiology presentation and the management of illness	
7.2 Communication skill & counseling	
Define counseling	Small Group Session
Discuss the attending and listening, verbal techniques and role of empathy in healing of illness	
Discuss the Role of counseling, informational care and handling difficult patients and their families	
Differentiate among counseling, psychotherapy and active listening	
Differentiate among various types of psychotherapies/counseling	
Differentiate among empathy, sympathy and apathy Describe the prerequisites of counseling/ psychotherapy	
Differentiate between boundary and barrier	
Describe the basic rules of counseling	
Discuss the setting, rules and boundaries of counseling	
Enumerate some basics do's and don'ts of counseling	
7.3 Breaking bad news	
List the Importance application of biopsychosocial model in communications in the patient and family	Small Group Session
Discuss the addressing and dealing the concerns and emotional reactions of patients	
Discuss different disclosure models of breaking bad news and management of the related issues	
7.4 Depressive disorder	
Describe the diagnostic criteria for mood disorders (including depression and bipolar disorders)	Small Group Session + Interactive lecture
Identify common risk factors for mood disorders.	
Discuss the effective management of mood disorders	
State the epidemiology & etiology of mood disorder	
Discuss the factors theories of suicide with reference to recent advances	
Explain the process of risk assessment and its management	
Describe the public health approach for suicide prevention, including primary, secondary, and tertiary prevention strategies	

7.5 Bipolar effective disorders I	
Distinguish the essential features of generalized anxiety disorder (GAD), panic attacks, and panic disorder, phobias (Specific, Agoraphobia and Social Phobia).	Interactive lecture
Discuss the clinical symptoms, management and differential diagnosis	
7.6 Post-traumatic stress disorder (PTSD) and Acute Stress Response(ASR)	
Discuss the clinical features and etiology of PTSD and ASR	Small group Session
Explain the causes of PTSD and ASR	
Describe the management of these conditions	
7.7 Bipolar effective disorders II	
Discuss the management plan of Bipolar effective disorders	Interactive lecture
7.8 Obsessive Compulsive Disorders(OCD)	
Summarize the symptoms of Obsessive-Compulsive Disorder(OCD).	Small group Session
Define obsessions and compulsions and give examples of each.	
Discuss the management of OCD.	
Summarize the biological, psychodynamic, and cognitive-behavioral theories of OCD	
7.9 Schizophrenia	
Diagnose schizophrenia based on given criteria	Interactive lecture
Discuss the principles of treatment of schizophrenia	
Describe the etiological factors and prevalence of this condition	
7.10 Delusional disorder& other Psychotic Disorders	
State the prevalence of various psychotic illnesses	Interactive lecture
Describe the key features of psychotic illnesses	
Differentiate among the psychotic disorders based on data provided	
Select psychopharmacologic treatment for psychotic disorders	
Explain the general principles on how to approach a patient with psychosis	
7.11 Disorders of Addictive Behavior	
Define addiction	Small group session
Discuss the behavioral issue related to addiction	
Enumerate different types of addictive behaviors	
Discuss eating disorders	
Discuss the relationship of addiction with OCD	
Differentiate between abuse and dependence	
Explain how different psychological issues pertain to addictive behavior	
7.12 Alcohol & Substance Abuse Disorders	
Differentiate among tolerance, use/ excessive use, abuse/misuse, dependence, excessive withdrawal and intoxication	Small Group Session
Enumerate different drugs according to the classification.	
Discuss briefly the effects on the body of alcohol and other illicit drugs (cannabis, opioids, cocaine, amphetamines and LSD)	
Describe the modes of action of alcohol and other illicit drugs	
Explain the psychological, emotional, physical and social insults of these drugs on humans	

7.13 Somatic and Medically Unexplained Symptoms		
Discuss the assessment of medically unexplained symptoms according to their severity	Small Group Session	
Describe how to make a diagnosis when it is appropriate		
Manage these conditions appropriately including a stepped approach		
7.14 Introduction to Childhood Psychiatric Disorders		
Discuss the factors impacting child hood mental and emotional health.	Interactive lecture	
Enumerate different child hood psychiatric disorders.		
Diagnose common psychiatric illnesses in children		
Describe the use of multimodal treatment in children		
7.15 Child Abuse		
Describe different kinds of child abuse	Interactive lecture	
Discuss the implications of child abuse		
Explain the risk and etiological factors for child abuse		
Discus the identifying features of child abuse		
Explain the legal aspects of rights of a child		
Explain the management of cases of various types of child abuse		
Discuss the role of mental health professional in child abuse apart from the management of the any associated disorder		
7.16 Behavioral Disorders		
Identify biological and psychosocial risk factors of emotional or behavioral disorders.	Interactive lecture	
Discuss the classification, intervention and treatment of behavioral and emotional disorders.		
Categorize mental health disorders such as emotional disorders, behavior disorders in children and adolescents		
Recognize the symptoms of commonly diagnosed emotional disorders, behavior disorders in children and adolescents		
Identify the latest methods of treatment and assessment		
7.17 Introduction to Old Age Psychiatric Disorders		
Describe the variations in presenting psychiatric symptoms in this age group	Interactive lecture	
Explain the high likelihood of co-morbidity in this age group		
Diagnose common psychiatric illnesses in the geriatric group		
Describe the use of multimodal treatment in old age patients		
7.18 Delirium and Dementia		
Name standardized assessment tools and their use in measuring cognitive impairment.	Interactive lecture	
Formulate the differential diagnosis of a patient presenting with cognitive impairment suggestive of dementia		
Compare features of dementia versus delirium.		
Formulate the clinical assessment and differential diagnosis of an elderly patient with delirium		

7.19 Psycho-sexual Disorders	
Discuss different types of psychosexual disorder	Interactive lecture
Discuss the characteristic features of various psychosexual disorders	
Describe the etiology and prevalence of various psychosexual disorders	
Explain principles of management of these conditions	

8. PEDIATRICS	
OBJECTIVES	TEACHING STRATEGY
8.1 Cerebral Palsy and mental retardation in children	
Define of cerebral palsy	interactive lecture
List the causes of cerebral Palsy in children	
Describe the topographic classification of cerebral palsy.	
Discuss the associated conditions in cerebral palsy.	
Explain the management of Children with cerebral palsy	
8.2 Common CNS Infections in Children	
Identify common pathogens of CNS infections in various ages.	Interactive lecture
Recognize common signs and symptoms of CNS infections.	
Interpret the CSF reports of cases with CNS infections	
Describe management of CNS infections and their complications	
8.3 Upper versus lower motor neuron lesions	
Differentiate between the symptoms and signs of upper and lower motor neuronlesions.	Case-Based Discussion
Identify the common conditions associated with AFP(Polio ,GBS ,transverse myelitis and traumatic neuritis)	
Identify the common conditions associated with upper motor neuron lesions	
Discuss the importance of Polio eradication program in Pakistan	
8.4 Seizures in Children	
Identify various types of fits based on data provided	Interactive lecture
List causes of seizures in children	
Define the febrile Seizures & Childhood Epilepsy	
Discuss management of acute seizures	

9. SKILLS LAB	
OBJECTIVES	TEACHING STRATEGY
9.1 Lumbar puncture	
By the end of session all the students will be able to perform lumbar puncture with proper steps on mannequin.	Skills training session

10. PLASTIC SURGERY	
OBJECTIVES	TEACHING STRATEGY
Describe the etiology and pathophysiology of pressure ulcer development	Small Group Discussion
Identify risk factors for pressure ulcer development	
Evaluate pressure ulcer risk assessment methods and procedures	
Diagnose and classify pressure ulcers	
Describe the evidence about support surfaces (cushions and mattresses), heel preventive devices, nutrition, and repositioning to prevent and treat pressure ulcers	
Recommend effective interventions for local treatment of pressure ulcers	
Describe best practices for cleansing, debridement, assessment and treatment of infection	
List indications and contra-indications for wound dressings, biological dressings, growth factors and biophysical agents for the treatment of pressure ulcers	
Describe the role of surgery to treat pressure ulcers	

Apart from attending daily scheduled sessions, students too should engage in self-study to ensure that all the objectives are covered



LEARNING RESOURCES

Discipline	Resources
COMMUNITY MEDICINE	<u>TEXTBOOKS</u> 1. Preventive and Social Medicine by K Park 2. Community Medicine by M. Ilyas 3. Basic <i>Statistics</i> for the Health Sciences by Jan W Kuzma 4. Textbook of Community Medicine and Public Health, 2018. Saira Afzal, Sabeena Jalal
NEUROLOGY	<u>TEXTBOOKS</u> 1. Davidson's Principles and Practice of Medicine 2. Kumar and Clark's Clinical Medicine, Edited by Parveen Kumar, 9th Edition
NEUROSURGERY	<u>TEXTBOOK</u> 1. Bailey & Love's Short Practice of Surgery , 26 th Edition
PATHOLOGY	<u>TEXTBOOKS</u> 1. Robbins & Cotran, Pathologic Basis of Disease, 9 th edition. 2. Rapid Review Pathology, 4 th edition by Edward F. Goljan MD <u>WEBSITES:</u> http://library.med.utah.edu/WebPath/webpath.html http://www.pathologyatlas.ro/
PEDIATRICS	<u>TEXTBOOKS</u> 1. Nelson Textbook of Pediatrics, 19 th Edition 2. Textbook of Pediatrics by PPA, preface written by S. M. Haneef 3. Clinical Pediatrics by Lakshmanaswamy Aruchamy, 3 rd Edition
PHARMACOLOGY	<u>TEXT BOOKS</u> 1. Lippincot Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung
PSYCHIATRY	<u>TEXT BOOK</u> 1. Oxford textbook of psychiatry by Michael G. Gelder, 2 nd Edition
PLASTIC SURGERY	<u>TEXTBOOK</u> 1. Bailey & Love's Short Practice of Surgery , 26 th Edition

ADDITIONAL LEARNING RESOURCES

<u>Hands-on Activities/ Practical</u>	Students will be involved in Practical sessions and hands-on activities that link with the Neurosciences-II and Psychiatry Module to enhance learning.
<u>Museum</u>	Models available in the museum are a rich learning resource for quick review of anatomy and related educational activities
<u>Skills Lab</u>	Skills acquisition in a simulated environment in the skills lab involving experiential learning will ensure patient safety and will also help to build confidence in approaching the patients
<u>Videos/Podcasts</u>	Videos and podcasts will familiarize the student with the procedures and protocol which they can watch and listen to at any time and wherever they are, as part of task oriented learning
<u>Internet Resources</u>	Students will use easily accessible internet resources with added time flexibility to enrich and update their knowledge and its application

ASSESSMENT METHODS:**Theory:**

- **Best Choice Questions (BCQs)** also known as MCQs (Multiple Choice Questions) are used to assess objectives covered in each module.
 - A BCQ has a statement or clinical scenario followed by four options (likely answer).
 - Students after reading the statement/scenario select ONE, the most appropriate response from the given list of options.
 - **Correct answer carries one mark, and incorrect 'zero mark'. There is no negative marking.**
 - Students mark their responses on specified computer-based/OMR sheet designed for LNHMC.

OSPE/OSCE: Objective Structured Practical/Clinical Examination:

- Each student will be assessed on the same content and have same time to complete the task.
- Comprise of 12-25 stations.
- Each station may assess a variety of clinical tasks, these tasks may include history taking, physical examination, skills and application of skills and knowledge
- Stations are observed, unobserved, interactive and rest stations.
- Observed and interactive stations will be assessed by internal or external examiners.
- Unobserved will be static stations in which there may be an X-ray, Labs reports, pictures, clinical scenarios with related questions for students to answer.
- Rest station is a station where there is no task given and in this time student can organize his/her thoughts.

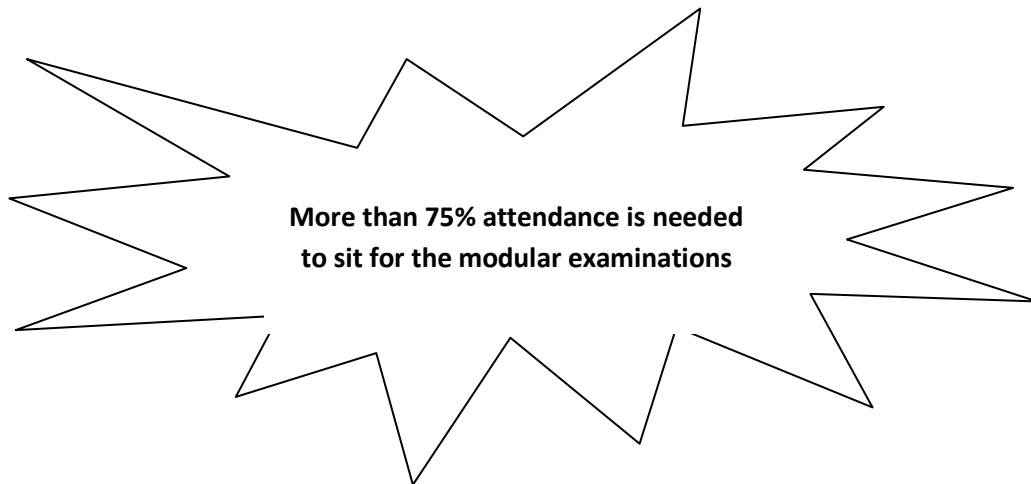
Internal Evaluation

- Students will be assessed to determine achievement of module objectives through the following:
 - **Module Examination:** will be scheduled on completion of each module. The method of examination comprises theory exam which includes BCQs and OSPE (Objective Structured Practical Examination).
 - **Graded Assessment of students by Individual Department:** Quiz, viva, practical, assignment, small group activities such as CBL, TBL, TOL, online assessment, ward activities, examination, and log book.
- Marks of both modular examination and graded assessment will constitute 20% weightage.
- As per JSMU policy, this 20% will be added by JSMU to Final Theory Examination.

Example : Number of Marks allocated for Final Theory and Internal Evaluation			
	Final Examination Theory Marks	Internal Evaluation (Class test + Assignments + Modular Exam)	Total (Theory)
	80%	20%	100%

Formative Assessment

- Individual department may hold quiz or short answer questions to help students assess their own learning. The marks obtained are not included in the internal evaluation



MODULAR EXAMINATION RULES & REGULATIONS (LNH&MC)

- Student must report to examination hall/venue, 30 minutes before the exam.
- **Exam will begin sharp at the given time.**
- No student will be allowed to enter the examination hall after 15 minutes of scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- **Cell phones are strictly not allowed in examination hall.**
- If any student is found with cell phone in any mode (silent, switched off or on) he/she will be not be allowed to continue their exam.
- No students will be allowed to sit in exam without University Admit Card, LNMC College ID Card and Lab Coat
- Student must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
- Indiscipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

JSMU Grading System

- It will be based on GPA – 4 system

Marks obtained in Percentage range	Numerical Grade	Alphabetical Grade
80-100	4.0	A+
75-79	4.0	A
70-74	3.7	A-
67-69	3.3	B+
63-66	3.0	B
60-62	2.7	B-
56-59	2.3	C+
50-55	2.0	C
<50 Un-grade-able	0	U

- A candidate obtaining GPA less than 2.00 (50%) is declared un-graded (fail).
- Cumulative transcript is issued at the end of clearance of **all** modules.

SCHEDULE:

WEEKS	4 th Year	MONTH
WEEK 1	OPHTHALMOLOGY/ ENT	1 st April 2019
WEEK 2		
WEEK 3		20 th April 2019
	MODULAR EXAM	22 nd April 2019
WEEK 1	REHABILITATION	23 rd April 2019
WEEK 2		4 th May 2019
WEEK 1	GENETICS	6 th May –11 th May 2019
WEEK 1	DERMATOLOGY	13 th May 2019
WEEK 2		24 th May 2019
	DERMATOLOGY, GENETICS & REHABILITATION MODULAR EXAM**	29 th May & 30 th May 2019
WEEK 1	NEUROSCIENCES-II & PSYCHIATRY	10 th June 2019
WEEK 2		
WEEK 3		
WEEK 4		
WEEK 5		
WEEK 6		
WEEK 7		
WEEK 8		31 st July 2019*
	MODULAR EXAM	1 st & 2 nd Aug 2019*

*Final dates will be announced later

** There will be combined module exam for Dermatology, Genetics and Rehabilitation modules