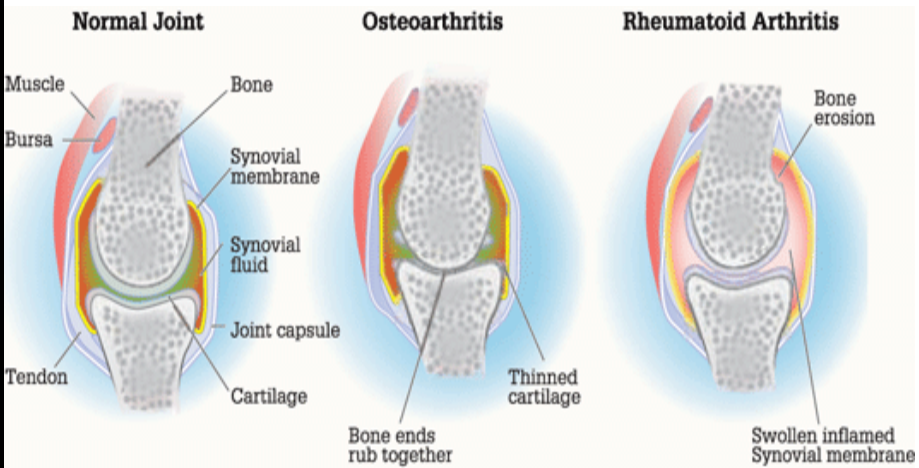


STUDY GUIDE

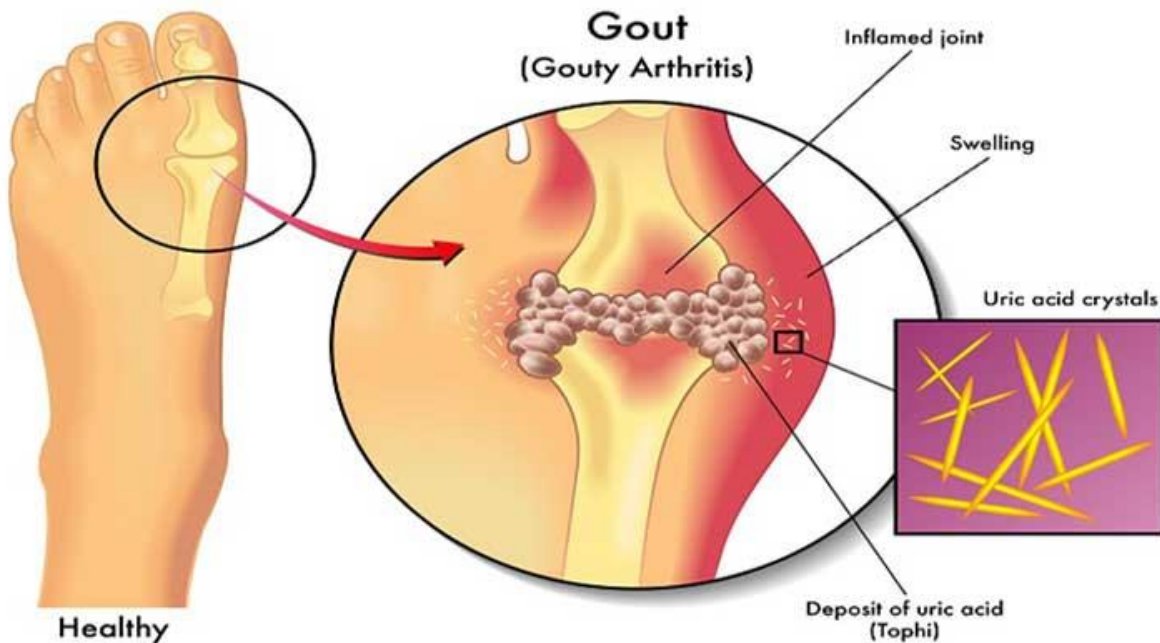
THIRD YEAR MBBS

24TH MAY- 18TH JUNE 2021

DURATION: 4 WEEKS



LOCOMOTOR-II MODULE



STUDY GUIDE FOR LOCOMOTOR-2 MODULE

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Module name: **Locomotor -2**Year: **Three**Duration: **4 weeks (May- June 2021)**

Timetable hours: Lectures, Case-Based Integrated Learning (CBIL), Clinical Rotations, learning experience in LNH outreach centers, Laboratory, Practical, Demonstrations, Skills, Self-Study

MODULE INTEGRATED COMMITTEE

MODULE COORDINATORS:	<ul style="list-style-type: none"> Professor Zia ul Islam (Anatomy)
CO-COORDINATORS:	<ul style="list-style-type: none"> Dr. Sadia Qayyum (Forensic Medicine) Professor Sobia Ali (DHPE)

DEPARTMENTS' & RESOURCE PERSONS' FACILITATING LEARNING

BASIC HEALTH SCIENCES	CLINICAL AND ANCILLARY DEPARTMENTS
COMMUNITY MEDICINE <ul style="list-style-type: none"> Dr. Saima Zainab 	ORTHOPAEDICS <ul style="list-style-type: none"> Dr. Kazim Rahim
FORENSIC MEDICINE <ul style="list-style-type: none"> Professor Murad Zafar 	RADIOLOGY <ul style="list-style-type: none"> Dr. Misbah Tahir
MICROBIOLOGY <ul style="list-style-type: none"> Professor Shaheen Sharafat 	RHEUMATOLOGY <ul style="list-style-type: none"> Dr. Tahira Perveen
PATHOLOGY <ul style="list-style-type: none"> Professor Naveen Faridi 	
PHARMACOLOGY <ul style="list-style-type: none"> Professor Nazir Ahmad Solangi 	
DEPARTMENT OF HEALTH PROFESSIONS EDUCATION	
<ul style="list-style-type: none"> Professor Nighat Huda Professor Sobia Ali Dr. Afifa Tabassum Dr. M. Suleman Sadiq 	
LNH&MC MANAGEMENT	
<ul style="list-style-type: none"> Professor KU Makki, Principal LNH&MC Dr. Shaheena Akbani, Director A.A & R.T LNH&MC 	
STUDY GUIDE COMPILED BY: Department of Health Professions Education	

INTRODUCTION

WHAT IS A STUDY GUIDE?

It is an aid to:

- Inform students how student learning program 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 and journals for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous and Term examinations 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.

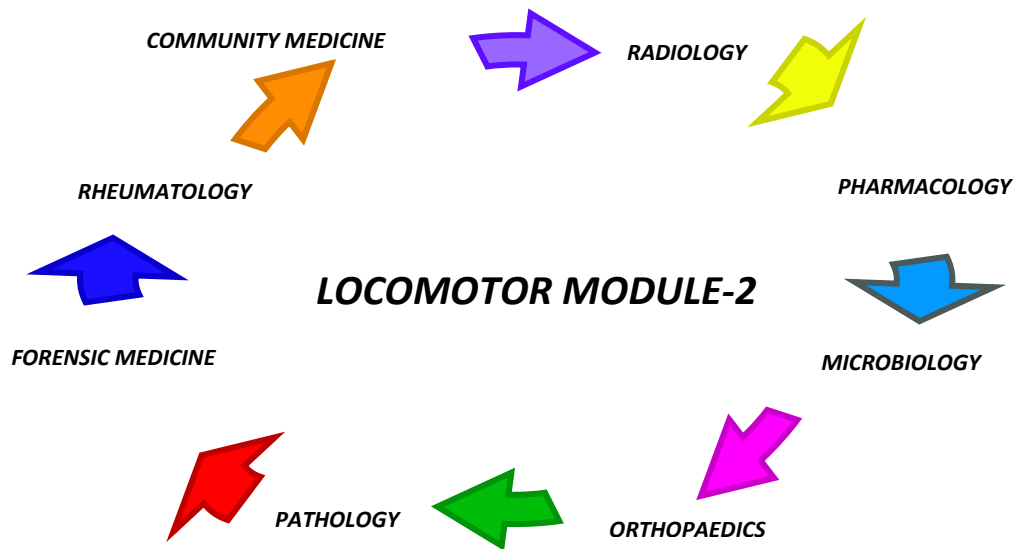
CURRICULUM FRAMEWORK

Students will experience integrated curriculum similar to previous modules.

INTEGRATED CURRICULUM comprises of system-based modules such as Infectious Diseases, Blood-II, Respiratory system-II and CVS-II 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, skills acquisition in skills lab. Computer-based assignments, learning experiences in clinics, wards, and outreach centers

INTEGRATING DISCIPLINES OF LOCOMOTOR MODULE-II



LEARNING METHODOLOGIES

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

- Interactive Lectures
- Small Group Discussion
- Case- Based Integrated Learning (CBIL)
- Clinical Experiences
 - Clinical Rotations
 - Experience in LNH outreach centers
- Practicals
- Skills session
- Self-Directed Study

INTERACTIVE LECTURE: 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 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 INTEGRATED LEARNING (CBIL): 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 CBIL will be provided by the concern department. CBIL 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.
- **EXPERIENCES IN LNH OUTREACH CENTERS:** Learning at outreach centers of LNH have been organized and incorporated as part of training of third year medical students. The objective of these visits is to provide clinical training experiences for students in primary care settings.

PRACTICAL: Basic science practicals related to pharmacology, microbiology, forensic medicine, and community medicine have been schedule for student learning.

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.

LOCOMOTOR -2 MODULE

INTRODUCTION

For MBBS third year students, the locomotor-2 module concentrates on knowledge and skills required for diagnosis, treatment and prevention of conditions affecting the musculoskeletal system, ranging from common disorders of bone and cartilages to severely disabling limb trauma, accidents and disasters.

The Locomotor-2 module learning objectives take into consideration previously acquired pertinent knowledge in Locomotor module of MBBS first year. The module integrates with related disciplines such as Community Medicine, Forensic Medicine, Microbiology, Pathology & Pharmacology. It is expected that different learning experiences would help students build new knowledge, and enhance students' understanding and motivation to seek further knowledge.



COURSE TOPICS, OBJECTIVES AND TEACHING STRATEGIES

At the end of the module the students will be able to:

COMMUNITY MEDICINE

OBJECTIVES	TEACHING STRATEGY
1. Occupational health & Diseases	Tutorials
• Describe occupational health	
• Explain occupational health practice	
• Enumerate occupational health diseases	
• Discuss the control and prevention of occupational health hazards	
• Describe Lead poisoning	
2. Ergonomics	Practicals
• Define Ergonomics	
• Explain the aim of ergonomics	
• Describe the role of ergonomics in work place	
• Explain environmental ergonomics	
3. Accidents and Prevention	Interactive Lectures
• Describe accidents & different types of injuries	
• Explain the risk factors for different types of injuries	
• Enumerate the issues surrounding the road traffic accidents	
• Discuss the control and prevention of accidents, and injury-specific prevention & control measures	
4. Disaster management	Interactive Lectures
• Describe disaster and its management	
• Classify the types of disaster	
• Enumerate the steps in planning disaster management	
• Describe the steps of surveillance cycle	
5. Sports medicine	
• Describe sport medicine	
• Explain the role of sports physician in the practice of sports medicine	
• Discuss the female triad	
• Describe the pharmacological & legal aspects of Ergogenic aids in athletes	
6. Travel Medicine	Tutorials
• Explain the risk for travelers	
• List the pathogens causing common travelers diseases	
• Discuss the control measures for disease prevention among travelers	
• Describe the role of international health regulation for travelers	

FORENSIC MEDICINE

OBJECTIVES	TEACHING STRATEGY
1. Personal identity-I	Interactive Lectures
<ul style="list-style-type: none"> Define complete and partial identification 	
<ul style="list-style-type: none"> Describe the different methods of identification viz Third party, Subjective and Objective 	
<ul style="list-style-type: none"> Discuss the role of identification in living and dead bodies with examples 	
<ul style="list-style-type: none"> Describe the parameters of identification 	
<ul style="list-style-type: none"> Mention the criteria of determination of race 	
2. Personal identity-II	
<ul style="list-style-type: none"> Discuss sex determination and intersex states 	
<ul style="list-style-type: none"> Highlight the role of dactylography in identification 	
3. Personal identity- III	
<ul style="list-style-type: none"> Describe the molecular basis of DNA 	
<ul style="list-style-type: none"> Explain the DNA Typing techniques (RFLP,PCR, STR, MT DNA, Y Chromosome Analysis) 	
<ul style="list-style-type: none"> Discuss the methods of collection and uses of DNA evidence 	
<ul style="list-style-type: none"> Justify the use of DNA in forensic sciences 	
4. Personal identity-IV	
<ul style="list-style-type: none"> Explain the identification of dead and decomposed bodies 	
<ul style="list-style-type: none"> Discuss the medico legal importance of scars, acquired and congenital deformities, tattoo marks and hair in identification 	
5. Mass disasters	
<ul style="list-style-type: none"> Define Mass disasters according to World Health Organization 	
<ul style="list-style-type: none"> Describe Triage and its types i.e. Simple, Advance and Reverse 	
<ul style="list-style-type: none"> Explain the methods of identification of decomposed bodies, mutilated & burnt bodies, skeletal & fragmentary remains 	
<ul style="list-style-type: none"> Describe Super-imposition photography 	
6. Firearm Injuries lecture –I	
<ul style="list-style-type: none"> Describe basic terms related to ballistics & its types, types of cartridges/projectiles, and parts of a firearm weapon 	
<ul style="list-style-type: none"> List the types of gun powder 	
<ul style="list-style-type: none"> Explain the mechanism of fire in firearm weapons 	
7. Firearm injuries lecture – II	
<ul style="list-style-type: none"> Describe characteristic features of wound of entry and exit of firearms 	
<ul style="list-style-type: none"> Estimate distance of fire 	
<ul style="list-style-type: none"> List the features of fabricated firearm injuries 	
<ul style="list-style-type: none"> Explain the postmortem findings in cases of firearm injuries 	

8. Personal identity I (Forensic odontology)	Tutorials
<ul style="list-style-type: none"> Determine age from Odontological data and x-rays 	
9. Personal identity II (Age estimation by Radiology)	
<ul style="list-style-type: none"> Describe the medico legal importance of age Explain the medicolegal importance of general examination and ossification data in age determination 	
<ul style="list-style-type: none"> Determine age in at least 3 x-rays of long bones 	
10. Personal identity III (Sex determination from bones)	
<ul style="list-style-type: none"> Discuss the features of male vs female skeleton Determine sex from the following bones: <ul style="list-style-type: none"> i. Skull ii. Mandible iii. Thorax iv. Pelvis Describe the determination of sex in intersex states 	
11. Personal identity IV (Osteometric indices)	
<ul style="list-style-type: none"> Describe the role of Osteometric indices of bones in determination of age, sex, and race 	

ORTHOPEDICS

OBJECTIVES	TEACHING STRATEGY
<ul style="list-style-type: none"> Identify common fracture based on their classification Discuss initial treatment of common fractures Correlate pathological findings with clinical presentation of bone tumors Justify diagnosis, investigations and treatment plans for primary bone tumors 	Interactive Lectures

PATHOLOGY & MICROBIOLOGY

OBJECTIVES	TEACHING STRATEGY
1. Overview of bone diseases	Interactive Lectures
<ul style="list-style-type: none"> Briefly discuss matrix and cellular components of bone (osteoblast, osteoclast, osteocytes) Summarize the development, homeostasis and remodeling of bone 	
2. Developmental disorders of bone and cartilage	Tutorials
Discuss defects in:	
i. Nuclear proteins & transcription factors (Brachydactyly, Cleidocranial dysplasia)	
ii. Hormones & signal transducing proteins (Achondroplasia)	
iii. Extracellular structural proteins [(Osteogenesis Imperfecta), diseases associated with mutations of Types II, IX, X, and XI collagen]	
iv. Metabolic pathways (Osteopetrosis)	

3. Acquired disorders of bone & cartilage I	
<ul style="list-style-type: none"> Define osteopenia & osteoporosis Categorize generalized osteoporosis 	Interactive Lectures
<ul style="list-style-type: none"> Discuss the pathophysiology of postmenopausal & senile osteoporosis Describe the clinical & morphological features of osteoporosis Define Paget disease (osteitis deformans) List the three phases of Paget disease Discuss the pathogenesis, clinical & morphological features of Paget disease 	
4. Acquired disorders of bone & cartilage II	
<ul style="list-style-type: none"> Define Rickets & Osteomalacia Discuss the morphology & clinical features of Rickets & Osteomalacia Discuss the role of Parathyroid hormone in calcium homeostasis Describe the morphological features of hyperparathyroidism Define Renal Osteodystrophy Discuss the pathogenesis of Renal Dystrophy 	Interactive Lectures
5. Fractures & Osteonecrosis	
<ul style="list-style-type: none"> Define fractures List the types of fractures Describe the mechanism of bone repair after fractures Define osteonecrosis List the conditions causing osteonecrosis Discuss the morphology & clinical course of osteonecrosis 	Tutorial
6. Inflammatory diseases of bone	
<ul style="list-style-type: none"> Define osteomyelitis Discuss the routes & causes of Pyogenic Osteomyelitis Describe the morphological & clinical features of Pyogenic Osteomyelitis Briefly discuss Mycobacterial Osteomyelitis & Skeletal Syphilis Briefly discuss bone infections due to Staphylococcus & Salmonella 	Interactive Lectures
7. Bone tumors and tumor-like lesions I	
<ul style="list-style-type: none"> Briefly discuss Osteoid Osteoma and Osteoblastoma. Describe pathogenesis, morphology, clinical course of Osteosarcoma, Osteochondroma, Chondromas, and Chondrosarcoma. 	
8. Bone tumors and tumor-like lesions II	
<ul style="list-style-type: none"> Describe pathogenesis, morphology, and clinical course of Ewing Sarcoma, Giant Cell Tumor, and Aneurysmal Bone Cyst Discuss Fibrous Cortical Defect, Non-Ossifying Fibroma, Fibrous Dysplasia, and Metastatic Tumors 	Interactive Lectures & Tutorials
9. Degenerative joint disease {Osteoarthritis (OA)}	
<ul style="list-style-type: none"> Define osteoarthritis Describe the pathogenesis of osteoarthritis Discuss morphological & clinical features of osteoarthritis 	Interactive Lectures

10. Auto-immune joint disease {Rheumatoid Arthritis (RA)}	Interactive Lectures
• Define rheumatoid arthritis (RA)	
• Describe the pathogenesis & morphological features of RA	
• Discuss clinical & specific laboratory diagnostic features of RA	
• Discuss treatment & complications of RA	
11. Crystal-induced arthritis (Gout & Pseudogout), Joint tumors & tumors like conditions	
• Classify gout	
• Describe the pathogenesis, morphology & clinical features of Gout & Pseudo-gout	
• Briefly discuss Ganglion & Synovial cyst	
• Discuss pathogenesis, morphology & clinical features of Teno-Synovial Giant Cell Tumor	
12. Soft tissue tumours	
• Classify soft tissue tumors	
• Discuss the clinical manifestations, prognosis and management of soft tissue tumors (tumors of adipose tissue, fibrous, skeletal muscle, and smooth muscle tumors, and tumors of uncertain origin)	
• Describe the molecular basis of DNA	
• Explain the DNA Typing techniques (RFLP, PCR, STR, MT DNA, Y Chromosome Analysis)	
13. Types of arthritis	Tutorial & CBL
• Describe the pathophysiology of arthritis based on their types	
14. Cartilage forming tumors	Interactive Lecture
• Describe osteochondroma, chondroma and osteosarcoma	
15. Clinical implication of synovial fluid analysis	Tutorial
• Correlate synovial fluid analyses with their representative diseases	

PHARMACOLOGY

OBJECTIVES	TEACHING STRATEGY
1. Pharmacology of Eicosanoids	Tutorials
• Discuss the synthesis & classification of Eicosanoids	
• Explain the pharmacological functions of Eicosanoids in different body systems	CBL & Interactive Lectures
2. Pain management – I (NSAIDs)	
• Discuss the rationale of pain management	CBL & Interactive Lectures
• Discuss the classification of analgesics and the basic and clinical pharmacology of NSAIDs	

3. Pain management –II (Opioid analgesics)	CBL & Interactive Lectures
<ul style="list-style-type: none"> Discuss role of opioids in the management of severe pain Classify narcotic analgesics Describe their pharmaco-kinetics and dynamics 	
4. Anti- Rheumatic Agents I & II	
<ul style="list-style-type: none"> Discuss the classification with basic & clinical pharmacology of drugs used in treatment of Rheumatoid arthritis and osteoarthritis (RA & OA) 	Interactive Lectures
5. Drug used in Osteoporosis & Osteomalacia	
<ul style="list-style-type: none"> Describe the rationale of management of osteoporosis & Osteomalacia Discuss the classification with basic & clinical pharmacology of drugs used in treatment of Osteoporosis & Osteomalacia 	
6. Drug used in Gout	
<ul style="list-style-type: none"> Describe the rationale of management of Gout Enumerate the drugs used to treat Gout Describe kinetics & dynamics of these drugs 	Interactive Lecture
7. Pain management	
<ul style="list-style-type: none"> Discuss basic and clinical pharmacology of NSAIDs& Opioids 	Interactive Lecture & Tutorial
8. Treatment of Rheumatic Arthritis & Osteoarthritis	
<ul style="list-style-type: none"> Discuss the classification, kinetics and dynamics of drug used in OA & RA 	CBL
9. Drug Management in Osteoporosis & Osteomalacia	
<ul style="list-style-type: none"> Discuss the classification, kinetics and dynamics of drug used in Osteoporosis & Osteomalacia 	
10. Treatment of Gout	Practicals
<ul style="list-style-type: none"> Discuss the classification, kinetics and dynamics of drug used in Gout 	
11. Review of power lab system	
<ul style="list-style-type: none"> Identify various parts of the Power Lab System and their functions 	Practicals
12. Effects of drugs on frog's Rectus Abdominus muscle	
<ul style="list-style-type: none"> Demonstrate, in an experiment using power lab, the effects of different drugs acting as Skeletal Muscle Relaxants on isolated skeletal muscle tissue 	

RADIOLOGY

OBJECTIVES	TEACHING STRATEGY
<ul style="list-style-type: none"> Identify Radiological findings of Osteoprosis & Osteomalacia 	Interactive Lecture
<ul style="list-style-type: none"> Identify Radiological findings of Osteoarthritis & Rheumatoid 	

RESEARCH METHODOLOGY

OBJECTIVES	TEACHING STRATEGY
<ul style="list-style-type: none"> Discuss normal distribution and skewedness of data Describe basic concept of confidence interval 	Interactive Lectures
<ul style="list-style-type: none"> Calculate confidence interval for means and proportion 	Interactive Lectures & Tutorials
<ul style="list-style-type: none"> Develop Data collection tool (questionnaire development) Discuss the ethical consideration in data collection Explain Informed consent form 	Interactive Lectures
<ul style="list-style-type: none"> Calculate of Sample size on software Calculate area under the curve 	Tutorials

RHEUMATOLOGY

OBJECTIVES	TEACHING STRATEGY
Juvenile idiopathic Arthritis (JIA), Seronegative Spondyloarthropathies, Infectious Arthritis	Interactive Lectures
<ul style="list-style-type: none"> Define Juvenile Idiopathic Arthritis (JIA) 	
<ul style="list-style-type: none"> Compare JIA with Rheumatoid Arthritis 	
<ul style="list-style-type: none"> Briefly discuss risk factors & sub classification of JIA 	
<ul style="list-style-type: none"> Enumerate the features of Seronegative Spondylo-arthritis 	
<ul style="list-style-type: none"> Briefly discuss Ankylosing Spondylitis, Reactive Arthritis, Enteritis associated Arthritis & Psoriatic Arthritis Discuss the causative agents & presentation of suppurative, mycobacterial, Lyme & Viral Arthritis 	

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



LEARNING RESOURCES

SUBJECT	RESOURCES
COMMUNITY MEDICINE	<p><u>TEXT BOOKS</u></p> <ol style="list-style-type: none"> 1. Preventive and Social Medicine by K Park 2. Community Medicine by M Illyas 3. <i>Basic Statistics</i> for the Health Sciences by Jan W Kuzma
FORENSIC MEDICINE	<p><u>TEXT BOOKS</u></p> <ol style="list-style-type: none"> 1. Nasib R. Awan. Principles and practice of Forensic Medicine 1st ed. 2002. 2. Parikh, C.K. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology. 7th ed.2005. <p><u>REFERENCE BOOKS</u></p> <ol style="list-style-type: none"> 3. Knight B. Simpson's Forensic Medicine. 11th ed.1993. 4. Knight and Pekka. Principles of forensic medicine. 3rd ed. 2004 5. Krishan VIJ. Text book of forensic medicine and toxicology (principles and practice). 4th ed. 2007 6. Dikshit P.C. Text book of forensic medicine and toxicology. 1st ed. 2010 7. Polson. Polson's Essential of Forensic Medicine. 4th edition. 2010. 8. Rao. Atlas of Forensic Medicine (latest edition). 9. Rao. Practical Forensic Medicine 3rd ed ,2007. 10. Knight: Jimpson's Forensic Medicine 10th 1991,11th ed.1993 11. Taylor's Principles and Practice of Medical Jurisprudence. 15th ed.1999 <p><u>CDs:</u></p> <ol style="list-style-type: none"> 1. Lectures on Forensic Medicine. 2. Atlas of Forensic Medicine. <p><u>WEBSITES:</u></p> <p>www.forensicmedicine.co.uk</p>
MICROBIOLOGY	<p><u>TEXT BOOK</u></p> <ol style="list-style-type: none"> 1. Jawetz Melnick & Adelbergs Medical Microbiology 28 E 28th Edition
HEMATOLOGY/ PATHOLOGY	<p><u>TEXT BOOKS</u></p> <ol style="list-style-type: none"> 1. Robbins & Cotran, Pathologic Basis of Disease, 9th edition. 2. Rapid Review Pathology, 4th edition by Edward F. Goljan MD <p><u>WEBSITES:</u></p> <ol style="list-style-type: none"> 1. http://www.hematology.org/Educators/High-School.aspx#a2 2. http://imagebank.hematology.org/
PHARMACOLOGY	<p>A. <u>TEXT BOOKS</u></p> <ol style="list-style-type: none"> 1. Lippincot Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung

ADDITIONAL LEARNING RESOURCES

<u>Hands-on Activities/ Practical</u>	Students will be involved in Practical sessions and hands-on activities that link with the hematology module to enhance the learning.
<u>Labs</u>	Utilize the lab to relate the knowledge to the specimens and models available.
<u>Skills Lab</u>	A skills lab provides the simulators to learn the basic skills and procedures. This helps build the confidence to approach the patients. https://opentextbc.ca/clinicalskills/chapter/6-8-iv-push-medications-and-saline-lock-flush/
<u>Videos</u>	Video familiarize the student with the procedures and protocols to assist patients.
<u>Computer Lab/CDs/DVDs/Internet Resources:</u>	To increase the knowledge students should utilize the available internet resources and CDs/DVDs. This will be an additional advantage to increase learning.
<u>Self Learning</u>	Self Learning is scheduled to search for information to solve cases, read through different resources and discuss among the peers and with the faculty to clarify the concepts.

ASSESSMENT METHODS:

- **Best Choice Questions(BCQs)** also known as MCQs (Multiple Choice Questions)
- **Objective Structured Practical/Clinical Examination (OSPE or OSCE)**

BCQs:

- A BCQ has a statement or clinical scenario of four options (likely answers).
- **Correct answer carries one mark, and incorrect 'zero mark'. There is NO negative marking.**
- Students mark their responses on specified computer-based sheet designed for LNHMC.

OSCE:

- All students rotate through the same series of stations in the same allocated time.
- At each station, a brief written statement includes the task. Student completes the given task at one given station in a specified time.
- Stations are observed, unobserved, interactive or rest stations.
- In unobserved stations, flowcharts, models, slide identification, lab reports, case scenarios may be used to cover knowledge component of the content.
- Observed station: Performance of skills /procedures is observed by assessor
- Interactive: Examiner/s ask questions related to the task within the time allocated.
- In Rest station, students in the given time not given any specific task but wait to move to the following station.

Internal Evaluation

- Students will be assessed comprehensively through multiple methods.
- 20% marks of internal evaluation will be added to JSMU final exam. That 20% may include class tests, assignment, practicals and the internal exam which will all have specific marks allocation.

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

For JSMU Examination Policy, please consult JSMU website!

More than 75% attendance is needed to sit for the internal and final examinations
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LNH&MC EXAMINATION RULES & REGULATIONS

- 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.

SCHEDULE:

WEEKS	3RD YEAR	MONTH
WEEK 1-10	FOUNDATION II MODULE	8th February 2021
		15th April 2021
WEEK 1-4	BLOOD II MODULE	16th April 2021
		12th May 2021
MID TERM EXAMINATION 20TH MAY TO 22ND MAY 2021		
WEEK 1-4	LOCOMOTOR II MODULE	24th May 2021
		18th June 2021
WEEK 1-4	RESPIRATORY II MODULE	21st June 2021
		17th July 2021
WEEK 1-4	CVS II MODULE	19th July 2021
		14th August 2021
WEEK 1-6	GIT II MODULE	16th August 2021
		25th September 2021
PRE PROF. EXAMINATION*		

*Final dates will be announced later