



UNIVERSITY OF SULAIMANI
COLLEGE OF MEDICINE
Department of Basic Medical Sciences
2023-2024

MBChB

Curriculum Guide: Phase I

Year One Foundation

Year Two (S1 & S2)

Year Three (S3 & S4)

Bachelor of Medicine and Bachelor of Surgery Program

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Introduction

The basic sciences are a key component of most medical school curriculums. They underpin medical students' knowledge and understanding of the human body, disease, and associated therapies.

These basic sciences are critical in medical education, representing the initial steps toward clinical medicine. It is essential to perceive medical education as a continuous journey, and the development of the curriculum within this domain is considered a scholarly process.

At the College of Medicine, University of Sulaimani (CoM-UoS), the Basic Science Program spans three years in Phase I and is delivered through a model of horizontal integration.

Aims

We believe that it's not enough for a physician to know how the human body works. They must also understand the sciences that will help them make sense of the patient's approach to illness, impact the environment, and make informed decisions. The complexities of modern medicine and patient care require medical students to develop a solid knowledge of a range of basic sciences and clinical skills through a curriculum that utilizes a problem-based learning, emphasizes clinical correlations, and provides a thorough understanding of the basic biomedical sciences.

Objectives

The overarching objective of a basic medical science course is to provide fundamental scientific theories and concepts for clinical application. We believe that basic sciences lay a strong foundation for subsequent clinical learning.

Outcomes

Upon transforming the medical curriculum from the traditional Flexner model to an integrated model, the basic science courses are combined with related clinical disciplines, such as anatomy/radiology and immunology/pathology, and are structured into modules based on organ systems. Faculty members from both basic science and clinical departments collaborate to coordinate these modules, ensuring that students receive early exposure to patients in a clinical setting.

The assessment of courses involves a collaborative effort between the Sulaimani Directorate of Health (DoH), the College of Medicine, and the Ministry of Higher Education and Scientific Research (MOHESR). The department of medical education, through its committees and quality assurance procedures, contributes to the evaluation process.

Curriculum Approach

The updated curriculum is student centered, in an integrated and clinically oriented way, making students to:

- 1- Have a wide range of knowledge about basic, bio basic and clinical bio-basic sciences.
- 2- Have good clinical and Fundamental skills, effective critical thinking with decision making and problem-solving techniques that all are necessary and are the corner stone in diagnosis and care of patient.
- 3- Communicate in an effective way with health seekers, colleagues, and all hospital staff.
- 4- Work collaboratively and efficiently within a team setting.

The Curriculum

The theme of phase I is taught in the old campus – CoM and the DOH teaching hospitals. As our college has MoU with other private hospitals, some of the practical skill and lab sessions are conducted in these facilities. Phase I is studied over three academic years and the whole curriculum includes **90 weeks of study with over 5000 hours student self-study.**

MODES OF DELIVERY

1. Face-to-Face Mode

Lectures, seminars, discussions, tutorials, guided practical experiments and demonstrations. clinical work, clinical teachings, tutorials, practical demonstrations, teachings in skills laboratory, clinical case discussions, journal clubs, seminars, multimedia resources. Most of the learning will be participatory.

2. Open, Distance and E-Learning Mode

Home and/or office-based media using a variety of self-instructional electronic and online self-study materials, such as written self-instructional study modules, online interactive devices and self-tests, cloud-based content, videos of lectures mediated technical learning materials e.g., audiovisual and e- learning materials.

3. Blended Learning Mode

A combination of face-to-face and online learning approaches.

4. Self-Directed Learning

A great element of success in our integrated curriculum depends on your extensive, inner-motivated, and continuous life-long learning. Your proper use of all the previous learning esources will reflect your responsibility in acquiring the requisite knowledge, skills, and professionalism during your progress in year one and the successive years.

5. Library

The college library provides all the necessary reference books, basic and clinical books including journals, periodicals as well as research done in the college by the academic staff. Every student can study in the library and borrow books according to their needs.

Learning resources

Attending lectures, practical sessions, seminars, small group teachings, lab sessions, teaching videos and case-based learning resources.

Online learnings:

The college employs Google Classrooms for each module to facilitate online learning, assessments, and problem-based discussions. All faculty members and students are required to join their respective module classrooms.

Attendance / Absence

Students are required by university regulations to be present during daytime from 8:00 a.m. till 02:30 p.m. Student attendance at all year one teaching is compulsory. This means that you are required to attend all: Lectures, practical classes, Seminars, lab and group sessions, feedback sessions, formative assessment, and review sessions.

Students who fail to attend for any reason are instructed to notify the school and give the reason why he/she was unable to attend.

Failure of students to attend (unauthorized absence) for 10% of total hours in each module is subjected to disciplinary actions from alarming him or her and if absence reached 15% the student is subjected to further disciplinary action and referral to the deanery council with a view to end enrollment.

For additional details, please visit the registration unit and review the student disciplinary regulations.

Optional Summer Shadowing

Students may optionally shadow over the summer between Years 2 and 3. Summer shadowing is allowed in all teaching hospitals. For further details about summer shadowing please contact Basic science branch.

Copyright

Course materials are provided to you based on your registration in a class, and anything created by your professors and instructors is their intellectual property and cannot be shared without written permission. If materials are designated as open education resources (with a creative

commons license) you can share and/or use in alignment with the CC license. This includes exams, PowerPoint/PDF slides and other course notes.

Before you copy or distribute others' copyright-protected materials, please ensure that your use of the materials is covered under the University's Fair Dealing Copyright Guidelines available.

Module contacts

Contact information for all modules can be found in the Basic Science Branch and the respective course books for each individual module

Pass/failure policy

To successfully complete the Success in Medical School phase I, students must complete all mandatory course components. Students who do not attend and participate as expected in the course may fail the course based on professionalism. Details about each course are mentioned below.

Program evaluation and curriculum development

Program evaluation is a systematic process of collecting and analyzing data to assess the effectiveness, efficiency, and relevance of a program. It's a way to improve our program design, implementation, and outcomes, as well as demonstrate our impact and accountability to stakeholders. The importance of including stakeholders in planning an evaluation and in clarifying the evaluation questions and goals is stressed.

It's a set of procedures and tools that we use to provide useful information about our medical school programs and their components to decision-makers.

Our objective is to assess the contextual factors influencing the effectiveness of the medical school program.

1. Evaluate the alignment of the medical school's mission, vision, and values with the broader educational and healthcare objectives.
2. Analyze the demographic and socioeconomic characteristics of the student body, faculty, and the community served.
3. Assess the current healthcare landscape and anticipate future changes to ensure the program remains relevant and adaptable.

In our medical school we use the Kirkpatrick's Four-Level Evaluation Model.

The whole program of phase I is subject to periodic evaluations and development by the different committees of the medical education branch.

The examination timetable for the mid-term and final academic year will as follow:

Day	Date	S4	S3	S2	S1	Foundation Year
Sunday	Feb. 11 th 2024		Paper I		Paper I	
Wednesday	Feb. 14 th 2024		Paper II		Paper II	
Sunday	May 26 th 2024					Human body
Tuesday	May 28 th 2024					Social sciences
Thursday	May 30 th 2024					Kudology and terminology
Sunday	June 2 nd 2024					Biological science
Tuesday	June 4 th 2024					Computer science
Thursday	June 6 th 2024					Metabolism
Sunday	June 9 th 2024					UWE
Monday	June 10 th 2024	Paper I		Paper II		
Tuesday	June 11 th 2024					
Wednesday	June 12 th 2024	Paper I		Paper II		
Thursday	June 13 th 2024					
Tuesday	June 25 th 2024			OSCE		
Wednesday	June 26 th 2024			OSCE		

Year One – Foundation Year

The first year of the phase I curriculum is studied over 30 weeks, in this year the student will study different courses to strengthen their preclinical knowledge.

The first year includes the following Modules:

1. Human body.
2. Biological sciences.
3. Metabolism.
4. Social and behavioral sciences. (Psychology, Communication skill and Critical thinking)
5. Computer sciences.
6. University work environments and ethics.
7. Kurdology and medical terminology.

The annual workload of each module will be 40 marks and the remaining mark value which will be 60 marks is awarded after final paper examination at the end of the academic year excepts for the following modules: Social and behavioral sciences, kurdolgy and university work environment which do not have year workload and the total 100 marks will be awarded after end year examination. Details are mentioned below.

For enrollment to year two, successful completion of following modules is mandatory in both final and second attempt examination:

1. Human body.
2. Biological sciences.
3. Metabolism.

The distribution of the studied hours will be like following:

Subject	Theory hrs./Yr.	Group Session	Practical Session	Module Leader	Student out-of-class instruction/wk.
Biological sciences	50	28	22	Dr. banaz	15
Metabolism	50	28	22	Dr. Saman	15
Human body	50		50	Dr. Essra	15
Social and behavioral sciences	50			Dr. Hani	10
Computer science	25		50	Dr. Dalia	5
Kurdology and terminology	25			Dr. Kamal	
University WE	25		15	Dr. Sham	

Timetable / Year one 2023-2024

Days / week	8:30-10:30 a.m	10:30-12:30	12:30-1:30	1:30-2:30
Sunday	G3,G4 (Computer) G5,G1 (Biological science) G10,G8 (Metabolism)	G5,G6 (Computer) G2,G3(Biological science) G9,G7 (Metabolism)	Computer (Theory)	
Monday	G8,G9 (Computer) G6,G7 (Biological science)	G1,G2,G3,G4,G5 (Anatomy) G8,G10 (Biological science)	Metabolism (Theory)	Metabolism (Theory)
Tuesday	G1,G2 (Computer) G3,G5 (Metabolism)	G7,G10(Computer) G9,G4 (Biological science) G6,G1 (Metabolism)	Kurdology & medical terminology (Theory)	
Wednesday		G6,G7,G8,G9,G10 (Anatomy) G2,G4 (Metabolism)	Biological science (Theory)	Biological science (Theory)
Thursday	Human body (Theory)	Social & behavioural science (Theory)	University WE (Theory)	University WE (Activity)

First Year Learning outcomes:

By the end of first year, student should achieve these learning outcomes:

1. Explain the metabolism of carbohydrates, lipids, protein and amino acids, and nucleotide bases in detail.
2. Explain the synthesis of proteins, nucleic acids, and fatty acids in detail.
3. Describe the biochemical pathways and cycles in energy metabolism and the integrated metabolism of major organs including the integration of the various components of intermediary metabolism.
4. Explain the importance of micronutrients to intermediary metabolism.
5. Perform some practical laboratory experiments in biochemistry.
6. Demonstrate knowledge of, analyze and engage critically with, a range of theories, models, and policies in relation to contemporary accounts of health, illness.
7. Demonstrate an ability to understand “health” as a contested concept.
8. Demonstrate an understanding of contemporary issues at the forefront of health and social science debates.
9. Understand and explain the diversity of social relationships between individuals, groups and institutions and medicine.
10. Develop an ability to engage in complex arguments verbally and in small groups.
11. Demonstrate an appreciation of the interpersonal skills (e.g., empathy, ethical thinking) required to analyze and produce high quality research within the arena of health and illness.
12. Demonstrate the ability to work independently, within a limited time frame, and without access to external sources, to complete a specified task.

13. Students know the basic concepts of medical informatics.
14. Students are fluent in clinical data acquisition, processing, and management, in the areas outlined in the schedule.
15. Describe a systematic process for solving problems and making decisions.
16. explain how the power of computing enables different solutions to difficult problems.
17. Apply appropriate anatomical terms and concepts for the purpose of identification, effective communication, and critical reading of relevant literature.
18. Analyze the gross (macroscopic) and histological (microscopic) anatomy of the tissues and organs that constitute the human body.
19. Describe basic structural and functional features of the major organ systems within the human body.
20. Correlate specific structural features of human cells, tissues, organs, and systems of the human body with their normal functions, and identify the changes that occur during human development, ageing and disease.
21. Introduce general guides and regulations of colleges.
22. Understand general principles of self-directed learning.
23. Know general daily etiquette for daily lives.
24. know a healthy environment, health and safety, and general principles of first aid.
25. To be familiar with general soft skills like leadership, communication, problem solving, teamwork, time management, and project management, with volunteering working skills.
26. Get knowledge about the history of medicine.

Methods of Teaching and Learning

The program aims to adopt student-centered leaning approaches and uses the following learning methods:

- Theoretical lectures at the college Rapareen hall.
- Practical sessions in the college laboratory facilities.
- Group work learning.
- Tutorial, seminars, and workshops.

Assessment:

The assessments are part of the learning process and it's set to determine whether the learning objectives are verified or not.

- Assessment helps student learnings.
- Helps student development and understanding the objectives.
- It's used as an evaluation process for the program evaluation.
- Certification and judgment of competency.

Types of assessment

1. Daily workout and discussion. Which implies daily attendance to the class and involves active participation in discussion with the tutor and teammates.

2. Seminar presentation, Lab reports, OSPE and min CEX according to specific modules.
 3. Online and in-class Quiz. It's an excellent way to evaluate your knowledge. It is very effective in the online learning process, as teachers can understand how much you have understood the concept. With the help of online quizzes, teachers can know the knowledge gap and teach accordingly.
 4. Formative Assessments. It's used to monitor your learning and provide ongoing feedback to staff and students also. It is assessment for learning, it helps you to identify your strengths and weaknesses, enable you to improve your self-regulatory skills so that you manage your education. It also provides
 5. information to the faculty about the areas students are struggling with so that sufficient support can be put in place.
 6. Summative assessment: its outcome focused; its primary purpose is to determine the achievement of the student or the program. Summative assessments are generally high stakes examinations and require substantial developmental effort and strict quality control.
- Some of the modules have a workload of 40 marks which will be collected through different tools mentioned below, while others, the total 100 marks will be on the final assessment. The workload mark distributions will be like following:

At the end of the academic year, you will be assessed in each module separately as a unit through paper based summative examination over a period of three hours. A total of 60 marks will be

Module	Interim assessment	Lab reports	Seminar presentation	Daily work activity, participation, and attendance	OSPE	Quiz	Total
Biological science	15 marks (MCQ). 2 exams in week 12 and week 24), 7.5 marks for each exam.	10 marks. 2 reports, 5 marks for each report.	10 marks for ppt seminar presentation.	5 marks	-----	-----	40
Metabolic	15 marks (MCQ). 2 exams in week 12 and week 24), 7.5 marks for each exam.	10 marks. 2 reports, 5 marks for each report.	10 marks for ppt seminar presentation.	5 marks	-----	-----	40
Human body	-----	-----	-----	5 marks	30 marks. 2 OSPE in week 12 and week 24), 15 marks for each exam.	5 marks. 2 quizzes, 2.5 marks for each quiz.	40
Computer science	25 marks. 2 practical exams in week 12 and week 24), 12.5 marks for each exam.	10 marks for a project-based study.	-----	-----	-----	5 marks.	40

awarded to this Paper exam which will be 100 – 120 single best answer question (4 answer formats), while the remaining 40 marks will be on the other assessments tools.

Passing final mark after summation of the annual workload and final summative examination will be 50.

Failure to achieve 50 marks at the end will let you have a second attempt.

Failing in Four or more than Four modules will make you repeat the first year in the next academic year while if you have Three or less modules (excluding Human anatomy, biological sciences, and metabolism because these modules are mandatory for year two enrollment) you can proceed to the next year without repeating the modules which you have been succeeded in, and do the third and fourth attempt. In the event of failure in these attempts you must repeat the whole first year even if the second year has been completed successfully and repeat it thereafter.

In the event of failing two successive years, you will have a chance of third trial by parallel studying just once and if already your admission was parallel the tuition fee will be raised to 125%. Failure in this attempt will end your enrollment permanently in the college for further details you can contact the admission and registration unit.

Learning resources and support

To support your integrative basic skill learnings the College of Medicine has put the first-year curriculum to campus lecturing learnings.

Campus Tutorials and Large Group Sessions

Lectures start daily in Rapareen hall from 12:30 pm to 2:30 pm every day of the week except for Saturday.

Small Group Sessions

Some of the units require practical and lab sessions and these starts according to the preset schedule which will be provided to you including the whole unit's site maps. Sessions start daily from 8:30am to 11:30 am.

Seminars

Most of the units will have a range of additional structured teaching events, face to face and/or virtual.

Feedback

The delivery of individualized feedback is a key objective for the Sulaimani College of Medicine program. It is well known that feedback is integral to learning. Therefore, it's necessary that feedback takes place at different levels and times and makes use of varied formats.

Attendance

Students are required to attend mandatory timetabled teaching and practical sessions. It is important to note that attendance is expected to be 100% where timetabled across. Details of non-attendance will be provided by registration unit.

Professionalism

Students are required to demonstrate professional attitudes and behavior both toward the university staff and employees as well as colleagues and hospital personnel.

Dressing Code

It is mandatory for all students to enter the labs with a white coat on in addition to an ID card that clearly shows their names, college, and level of study. The administrative and guard personnel at different hospitals may ask for your identity. They have all the right to reject your entry to hospitals if you are not dressing according to DoH code.

Year Two

The second year (Basic Medical Sciences) is studied over two divided semesters which is equivalent to 30 weeks, which will be called S1 and S2.

- Each semester is composed of four modules.
- The semester will be studied over a period of 15 weeks.
- The annual workload of each semester is 40 marks, and each module will take 10 marks share for the annual workload and the remaining mark value which will be 60 marks is granted after final paper examination.

The distribution of the annual workload 10 marks for each module will be as follows:

Assessment / Module	frequency	Total
Module daily participation, activity, and attendance.		2
In module quiz (Online and in class).	1	2
End module assessment (OSCE/OSPE or (Mini CEX).	1	6
		10

First Semester (S1)

Students will be subdivided into two classes, class A and class B.

Each class will study four modules in the week starting from Sunday to Thursday for a period of 15 weeks to complete the syllabus of the module and after assessment will shift to the next remaining two modules.

The distribution of the studied hours will be like following:

subject	Theory	Group session	Practical session	Module leaders	Student out-of-class instruction
Musculoskeletal system (MSK)	30	30		Dr.shaxawan	15
Tissue of body (TOB)	30	15	15	Dr.Snur	15
Cardiovascular syatem (CVS)	30	30	6	Dr.Rana	15
Membrane & receptor (M&R)	30	30		Dr.Darya	15

Year 2, S1 Learning outcomes:

By the end of first semester of second year, student should achieve these learning outcomes:

1. Describe the structure and relations of the heart and major blood vessels of the body and relate their structure to function in the circulation.
2. Describe the development of the heart, some common congenital defects, and the pathology of valvular problems.
3. Describe the factors influencing blood flow to individual tissues, the mechanisms of control of vascular resistance and the special features of the pulmonary, cerebral, coronary, skin, and skeletal muscle circulations.
4. Describe in general terms the role of the autonomic nervous system in the control of cardiovascular function, including the concepts of local and central control.
5. Describe the mechanisms controlling cardiac output in the normal individual, and how they operate in common situations such as exercise.
6. Describe the main features of the fluid mosaic model of biological membrane structure and discuss the features of membrane asymmetry and cytoskeletal interactions.
7. Students should be able to describe the different types of body basic tissues and their locations with some disorders affecting each type.
8. Outline the variety of receptor mechanisms which influence the behavior of cells.
9. The students should understand tissue processing and staining.
10. The students should be able to use a light microscope and learn how to handle it.
11. Students should be able to describe the different types of body basic tissues and their locations with some disorders affecting each type.
12. They should be able to understand the early development of the human embryo.
13. Be able to build a solid foundation regarding knowledge of the structure and function of various muscles, bones, and joints.
14. Develop an understanding of the fundamental components of the musculoskeletal system.
15. Explain the structure & function of the musculoskeletal (MSK) components of limbs and back.
16. Describe how injury and disease alter the MSK structure & function.

Methods of Teaching and Learning

The program aims to adopt student-centered learning approaches and uses the following learning methods:

- Theoretical lectures at the college Rapareen hall & C6 hall
- Practical sessions in the college laboratory facilities.
- Team based learnings.
- Tutorial, seminars, report, and workshops.
- Oral presentations.

Assessment:

The assessments are part of the learning process and it's set to determine whether the learning objectives are verified or not.

- Assessment helps student learnings.
- Helps student development and understanding the objectives.
- It's used as an evaluation process for the program evaluation.
- Certification and judgment of competency.

Types of assessment

1. Daily workout and discussion. Which implies daily attendance to the class and involves active participation in discussion with the tutor and teammates.
2. In module assessment by OSCE/OSPE or Mini CEX.
3. Online and in class quiz. It's an excellent way to evaluate your knowledge. It is very effective in the online learning process, as teachers can understand how much you have understood the concept. With the help of online quizzes, teachers can know the knowledge gap and teach accordingly.
4. Formative Assessments. It's used to monitor your learning and provide ongoing feedback to staff and students also. It is assessment for learning, it helps you to identify your strengths and weaknesses, enable you to improve your self-regulatory skills so that you manage your education. It also provides information to the faculty about the areas students are struggling with so that sufficient support can be put in place.
5. Summative assessment: its outcome focused; its primary purpose is to determine the achievement of the student or the program. Summative assessments are generally high stakes examinations and require substantial developmental effort and strict quality control.
6. The annual workload will be 10 marks for each module and for each semester will be 40 marks.
7. The End semester exam will be a summative examination that includes paper one (100 single best answer question, 4 answer formats), and paper two examination (10 case scenario integrated question in single best answer format) each case scenario will have 10 sets of single best answers in relation together.

End semester assessment will be in all modules all together through paper based summative examination over a period of three hours. A total of 60 marks will be awarded to this paper exam, while the remaining 40 marks will be on the other assessments tools which will be the annual workloads.

Passing final mark after summation of the annual workload and final summative examination will be 50.

Failure to achieve 50 marks at the end will let you have a second attempt and do the examination for the final paper-based exam and will be added to the already achieved annual workload.

In case of a second attempt failure, you must repeat the whole semester next year. In the event of failing two successive years, you will have a chance of third trial by parallel studying just once and if already your admission was parallel the tuition fee will be raised to 125%. Failure in this attempt will end your enrollment permanently in the college. For further details you can contact the admission and registration unit.

Learning resources and support.

To support your integrative basic skill learnings the College of Medicine has put the first-year curriculum to campus lecturing learnings.

Campus Tutorials and Large Group Sessions.

Lectures start daily in Rapareen hall from 10:30 pm to 12:30 pm every day of the week except for Saturday.

Small Group Sessions.

Some of the units require practical and lab sessions and these starts according to the preset schedule which will be provided to you including the whole unit's site maps. Sessions start daily from 8:30am to 10:30 am.

Seminars.

Most of the modules will have a range of additional structured teaching events, face to face and/or virtual.

Feedback

The delivery of individualized feedback is a key objective for the Sulaimani College of Medicine program. It is well known that feedback is integral to learning. Therefore, it's necessary that feedback takes place at different levels and times and makes use of varied formats.

Attendance: Students are required to attend mandatory timetabled teaching and practical sessions. It is important to note that attendance is expected to be 100% where timetabled across. Details of non-attendance will be provided by registration unit.

Professionalism

Students are required to demonstrate professional attitudes and behavior both toward the university staff and employees as well as colleagues and hospital personnel.

Dressing Code

It is mandatory for all students to enter the labs with a white coat on in addition to an ID card that clearly shows their names, college, and level of study. The administrative and guard personnel at different hospitals may ask for your identity. They have all the right to reject your entry to hospitals if you are not dressing according to DoH code.

Second semester (S2)

Students will be subdivided into two classes, class A and class B.

Each class will study four modules in the week starting from Sunday to Thursday for a period of 15 weeks to complete the syllabus of the module and after assessment will shift to the next remaining two modules.

Outlines of the modules and studied hours:

	Subject	Total hr of theory	Total hr of practice	Group session	Self –study	Leader
1.	GIT	30	4	30	15	Dr. Dara
2.	Infection	30	15	30	15	Dr. Khanda
3.	Respiratory	30	4	30	15	Dr. Trifa
4.	MOD	30		30	15	Dr. Hadil

Year 2, S2 Learning outcomes:

By the end of semester two of the second year, student should achieve these learning outcomes:

1. Understanding the patient-pathogen interaction is an important first step in the infection model.
2. This will also allow for a progressive accumulation of knowledge of how the body responds to infection and the role of the immune system in the body.
3. Describe the structure and the respiratory function of the nose, the Para nasal sinuses, pharynx and larynx and describe the connections between the nose, para nasal sinuses, pharynx, auditory tube & middle ear.
4. Describe the structure of the pleural cavity and lines of pleural reflection, the lobes of the lung and their surface marking, structure and arrangement of airways and blood vessels in the lungs, and the histology of the lung airways.
5. Describe the structure of a typical thoracic vertebra and rib, the relations and arrangement of muscles in the thoracic wall and diaphragm, and the function and distribution of the intercostal nerves, arteries, and veins.
6. Describe the mechanism of inspiration and expiration, the measurement of lung

- volume and capacities, and common tests of lung function.
7. Describe the carriage of oxygen in the blood, explain the role of carbon dioxide in blood and its role in acid base balance, and describe the neural and chemical control of breathing, with reference to different types of respiratory failure.
 8. Describe the conditions of asthma, and chronic obstructive pulmonary disease, its presentation, diagnosis, cell biology, epidemiology and treatment with bronchodilators and other drugs.
 9. Describe the defenses of the lung against infection, the immunology of the lung, and the microbiology of common lung infections. Describe the classification, microbiology and principles of diagnosis and treatment of pneumonias, and tuberculosis.
 10. Describe the definition and classification of interstitial lung disease, its relationship to occupational lung disease, its pathology and the principles of diagnosis and treatment.
 11. Describe and be able to recognize the key features of a plain film radiograph of the chest, Describe the features of and recognize uncomplicated lobar collapse, pneumothorax, consolidation, space occupying lesions in the lung and pleural effusion and estimate the cardiac index.
 12. By the end of this module students should know the basics of inflammation, process of healing, cell injury and ways of adaptation to injury, mechanisms of hemostasis and atheroma formation, hemodynamics disorders with many fundamental concepts about neoplasia. This basic information will help the students in active critical thinking and concluding correlations with clinical signs and symptoms, blood investigations and radiological findings and consequently to predict the way of treatment whether medical or surgical.
 13. Also, the basic information will make students use their insights and knowledge in predicting the sequel of the disease and their prognosis.
 14. Describe the GIT in terms of its gross and histological structures.
 15. Describe the structure and process involved in mastication and swallowing food and outline causes of dysphagia and common esophageal disorders such as achalasia and reflux.
 16. Describe the function of the stomach and mechanisms of gastric secretions.
 17. Describe the structure and function of the hepatobiliary system.
 18. Explain the neurological basis of abdominal visceral and somatic pain.
 19. Explain in general terms the basis of disorders such as malabsorption, diarrhea, and steatorrhea.
 20. Describes the embryology of GIT and explains common congenital disorders.
 21. Describe the structure of abdominal wall, inguinal canal, and the structural basis of the common congenital defects like inguinal and umbilical hernia.

Methods of Teaching and Learning

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- Tutorial, seminars, reports, and workshops.
- Oral presentations.

Assessment:

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3. In module assessment by OSCE/OSPE or Mini CEX.
4. Formative Assessments. It's used to monitor your learning and provide ongoing feedback to staff and students also. It is assessment for learning, it helps you to identify your strengths and weaknesses, enable you to improve your self-regulatory skills so that you manage your education. It also provides information to the faculty about the areas students are struggling with so that sufficient support can be put in place.
5. Summative assessment: its outcome focused; its primary purpose is to determine the achievement of the student or the program. Summative assessments are generally high stakes examinations and require substantial developmental effort and strict quality control.
6. The annual workload will be 10 marks for each module and for each semester will be 40 marks.
7. The End semester exam will be a summative examination that includes paper one (100 single best answer question, 4 answer formats), and paper two examination (10 case scenario integrated question in single best answer format) each case scenario will have 10 sets of single best answers in relation together.

End semester assessment will be in all modules all together through paper based summative examination over a period of three hours. A total of 60 marks will be awarded to this paper exam, while the remaining 40 marks will be on the other assessments tools which will be the annual workloads.

Passing final mark after summation of the annual workload and final summative examination will be 50.

Failure to achieve 50 marks at the end will let you have a second attempt and do the examination for the final paper-based exam and will be added to the already achieved annual workload.

8. If the student fails in S1 or S2 and the sum of one semester is sixty-six (66) or more (final and workload together), provided that the sum of the failed semester is not less than forty (40), in this case the student is considered successful for that year, and in the event that the above condition is not met, the student must repeat the second attempt for the failed semester, and must award 50 or more.

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Seminars.

Most of the modules will have a range of additional structured teaching events, face to face and/or virtual.

Feedback

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Year Three

- The Third year is studied over two divided semesters, and it includes the clinical bio basic modules, and will be called S3 and S4.
- Semester 3 is composed of five modules.
- Semester 4 is composed of five modules.
- Each semester will be studied over a period of 15 weeks.

The annual workload of each semester is 40 marks, and each module will take 10 marks share for the annual workload except for Clinical skill Module which will be assessed separately by an OSCE at the end of the academic year not the end of the semester! The end semester exam will be 60 marks and will be granted after the final paper examination.

The distribution of the annual workload 10 marks for each module will be as follows:

Assessment / Module	frequency	Total
Module daily participation, activity, and attendance.		2
In module quiz (Online and in class).	1	2
End module assessment (OSCE/OSPE or (Mini CEX).	1	6
		10

Third Semester (S3)

Students will be subdivided into two classes, class A and class B.

Each class will study four modules in the week starting from Sunday to Thursday for a period of 15 weeks to complete the syllabus of the module and after assessment will shift to the next remaining two modules.

Outlines of the modules and studied hours:

	Module	Total hr of theory	Total hr of practice	Group session	Student out-of-class instruction	Leader
1.	Head and Neck	30	15	30	15	Dr. Shilan
2.	Health and disease and Epidemiology	30		30	15	Dr. Ari
3.	Immune system	30		30	15	Dr. Dana
4.	Integrative (Hemato-pathology)	30		30	15	Dr. Sana

Year3, S3 Learning outcomes:

By the end of semester three of third year, student should achieve these learning outcomes:

1. Confidently interpret CBC and reach a provisional diagnosis.
2. Decide a justification for many hematological tests.
3. Clearly differentiate types of anaemia.
4. Properly describe tests required for leukaemia/lymphoma.
5. Understand mechanism of blood grouping and cross match techniques.
6. How blood components are prepared and how to diagnose haemolytic transfusion reaction.
7. Understand the pathophysiology of lymphoma, GIT, respiratory, and renal systems.
8. Explain Innate and Adaptive immunity.
9. Define Antigens and Antibodies.
10. Have information about the complement system and structure of the Immune System.
11. Explain the Cell and Antibody-Mediated Immune Responses.
12. Define Hypersensitivity reactions and developments of Autoimmunity.
13. Know common Immunodeficiency Disorders.
14. Explain Immunoprophylaxis and Immunoematology.
15. Develop basic knowledge about Transplantation Immunology and Cancer Immunology.
16. Describe and demonstrate clinically relevant features of the skull and its radiological images. These features will include the orbit and the context of the eyeballs, paranasal sinuses, air cells, auditory passages, and temporomandibular joint.
17. Describe the clinical sequelae of fractures of the skull, face and cervical spine. Describe the clinical outcomes from common head and neck bone pathologies and cervical spine arthritis.
18. Outline the muscle groups involved in gaze and facial movements, mastication, swallowing and head movements.
19. Describe the clinical assessment of and explain patterns of sensory loss plus weakness of these muscle groups in terms of damage to head and neck innervation.
20. Outline the anatomy and transducer function of special sense organs and the basis of their clinical testing and investigating. Discuss the basis of common disorders associated with olfaction, paranasal sinuses, epistaxis, airways obstruction, tonsillar, salivary, and other neck swellings, ear pain, deafness, and disequilibrium.
21. Demonstrate the position of the major nerves and vessels, discussing the clinical relevance of their surface anatomy in relation to clinical procedures.
22. Outline the disposition of cervical lymph nodes and explain their role in draining local territories and their involvement in more widespread disorders.
23. Outline the anatomical context of the thyroid (& parathyroids) and the consequences of enlargement related to cervical triangles and their role in localizing neck lumps generally.
24. Outline the embryonic development of major structures (e.g., eye, nose, palate, face, thyroid gland, etc.) of the neck and their common anomalies.

25. Outline the anatomical basis of interpreting endoscopic views of the nose, pharynx, and larynx; the anatomical context of the front of the trachea related to laryngeal obstruction.
26. Identify anatomical structures on plain radiographs and other radiological images of the head and neck.
27. Description, evaluation and interpretation routine and non-routine information relating to health, ill-health, and healthcare in populations.
28. Calculation and interpretation a Standardized Mortality Ratio (SMR) and demonstration because crude rate ratios can be misleading.
29. Calculation the confidence intervals using the error factor and interpret a 95% confidence interval appropriately.
30. Description the purpose, strengths and weaknesses of prevalence surveys, cohort studies, case-control studies, and randomized controlled trials.
31. Do basic and advanced life support.
32. Taking blood samples in different situations.
33. Obtaining peripheral venous access.
34. Inserting catheters and performing aspiration procedures.
35. Performing basic suturing and wound care.
36. Performing basic (diagnostics and therapeutic) procedures in gynecological and obstetric cases.
37. Performing basic diagnostics and therapeutic) procedures in medical and surgical patients.

Methods of Teaching and Learning

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- Theoretical lectures at the college Rapareen hall.
- Practical sessions in the college laboratory and teaching hospital facilities.
- Team based learnings.
- Tutorial, seminars, reports, and workshops.
- Oral presentations.
- Teaching hospitals for the clinical skill module.

Assessment:

The assessments are part of the learning process and it's set to determine whether the learning objectives are verified or not.

- Assessment helps student learnings.
- Helps student development and understanding the objectives.
- It's used as an evaluation process for the program evaluation.
- Certification and judgment of competency.

Types of assessment

1. Daily workout and discussion. Which implies daily attendance to the class and involves active participation in discussion with the tutor and teammates.
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All fluid products from patients (blood, urine, stool, saliva, vomitus, etc) should be treated as potentially infectious. Gloves should be worn when handling these products and in case of resuscitation the rescuer should not use his or her mouth to apply suction via a suction device. Mouth-to-mouth resuscitation should be avoided by having a resuscitation bag and mask or T-piece resuscitator always available for use during resuscitation. Masks and

protective eyewear or face shields should be worn during procedures that are likely to generate droplets of blood or other bodily fluids. Gowns or aprons should be worn during procedures that probably will generate splashes of blood or other bodily fluids.

Fourth Semester (S4)

Students will be subdivided into two classes, class A and class B.

Each class will study four modules in the week starting from Sunday to Thursday for a period of 15 weeks to complete the syllabus of the module and after assessment will shift to the next remaining three modules.

Outlines of the modules:

	Subject	Total hr of theory	Total hr of practice	Group session	Student out-of-class instruction	Leader
1.	Genito-Urinary system	30	15	30	15	Dr. Kani
2.	Nervous System	30		30	15	Dr. Talar
3.	Clinical pharmacology	30		30	15	Dr. Roshna
4.	CPS	30		30	15	Dr. Naz
5.	Clinical Skill II	15		60	15	Dr. Rozhan

Year3, S4 Learning outcomes:

By the end of semester 4 of the third academic year, student should achieve these learning outcomes:

1. Know the basic parameters of pharmacology including Mechanism of action, Pharmacokinetics (PK), Pharmacodynamics (PD) of essential and commonly used drugs.
2. List the indication, contraindication, interaction, and adverse reactions of commonly used drugs.
3. Indicate the use of appropriate drug in particular disease with consideration of its cost, efficacy and safety for individual needs and mass therapy.
4. Describe the structure and relationships of the kidney, ureters, bladder and urethra in the male and female.
5. Describe the fluid compartments of the body, their electrolyte composition and state the normal composition of the major electrolytes in extracellular fluid, blood, and urine.

6. Describe the histological structure of the kidney and the parts of the Nephron.
7. Describe the structure of the glomerulus and relate this to the process of filtration.
8. Describe renal responses to extracellular fluid volume depletion 6. Explain the kidneys' role in acid base balance.
9. Explain the mechanisms to control sodium and potassium concentrations in extracellular fluid.
10. Explain how the kidney can produce urine that is more concentrated or diluted than plasma.
11. Describe and explain the bladder and the control of micturition.
12. Describe defense mechanisms of the urinary tract.
13. Describe the changes in micturition associated with urinary incontinence including consequences and management 14. Describe features, consequences, and management of acute and chronic renal failure.
14. Describe puberty and identify their abnormalities.
15. Identify maternal problems during pregnancy.
16. Know the basics of conception and contraception.
17. To explain how clinical problem solving is learned during medical education 'concept maps' related to clinical presentations or conditions, which enable students to link information and ideas into multiple contexts.
18. Identify the important questions which may be asked about any clinical presentation or condition.
19. Establish an intellectual process that enables students to identify and catalogue as the medical course progresses information relevant to individual clinical presentations or condition.
20. Build mental structures which allow students to collect information systematically from patients by taking a history from them, conducting a focused examination, and initiating appropriate investigations.
21. Audit effectively students' skills in literacy, numeracy, and information handling, to identify and remedy any deficiencies.
22. To outline the embryological development of the nervous system and mention some problems of development.
23. Give an overview of the nervous system, its peripheral and central divisions, and its role in the control of visceral and somatic function.
24. To relate function in the nervous system to the anatomical relationships and synaptic interactions between nerve cells.
25. To discuss the emergent properties of neuronal interconnection and the neurological problems associated with disruption of the nervous system.
26. To examine the disturbance of the functional integrity of the brain and lesion of the spinal cord.
27. Understanding the basic structure and function of the system Such a concept is basic to the understanding and elucidation of clinical problems.

28. Perform routine diagnostic and laboratory tests. Indications, limitations, and interpretation. ECG, X-Ray and contrast study, Urine analysis, Swabs, Special diagnostic tests (tuberculin, lumbar puncture...), Hematological tests.
29. Deal with patients, parents, teammates, and hospital staff through good communication skills.
30. Deal with breaking bad news.

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8. Regarding clinical skill module, because both parts had been studied over the whole academic year, the examination will be done as an OSCE at the end of the semester. The exam will be in eight stations; each station will be valued at 1.25 marks; the total marks of the exam will be 10 marks. Stations include the skills which have been taught in S3 and S4.
9. If the student fails in S3 or S4 and the sum of one semester is sixty-six (66) or more (final and workload together), provided that the sum of the failed semester is not less than forty (40), in this case the student is considered successful for that year, and in the event that the above condition is not met, the student must repeat the second attempt for the failed semester, and must award 50 or more.
10. The sum of workload is 40 marks, **the OSCE is 10 marks, and the final paper exam is 50 marks, the sum will be 100 marks.**

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