TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Medicine/ Al-nahrain university
2. University Department/Centre	Microbiology
3. Course title/code	Bacteriology 7 Mycology/MICBac:31
4. Programme(s) to which it contributes	M.B.Ch.B.
5. Modes of Attendance offered	Courses
6. Semester/Year	1/3
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	
9. Aims of the Course	
To study the medically important bacteria and fungi with special emphasis on the common and important bacteriological and mycotic diseases in Iraq and the world.	

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A1. Acquired knowledge about medically important bacteria and fungi which are responsible for local and global infectious diseases and their relation to humans.

A2. Introduce basic principles and applications relevant to clinical diseases for students who are in preparation to become physicians.

A3. Provide the conceptual basis of understanding pathogenic bacteria and fungi and particularly address the fundamental mechanisms of their pathogenicity.

A4. Apply knowledge for a student to develop diagnostic skills in microbiology, including the practical application and interpretation of laboratory tests for the diagnosis of infectious diseases.

A5.

A6.

B. Subject-specific skills

B1. Preparation of bacterial cultures from throat swab, Gram and Ziehl - Neelsen staining

B2.

B3.

Teaching and Learning Methods

lectures, small-group teaching, case-based learning, clinical skills laboratory training,

Assessment methods

1. open discussions

2. thinking indirect question

C. Thinking Skills

C1. interpret the results and finding appropriate anti-microbial agents for treatment

C2.

C3.

C4.

Teaching and Learning Methods

lectures, small-group teaching, case-based learning, clinical skills laboratory training,

Assessment methods
1. open discussions 2. thinking indirect questions

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1.Aware and capable of evaluating the risk of disseminating infections in the hospital and community through other cases, carriers or even healthcare workers during manipulating and handling infectious material. D2.Establish life-long self-learning required for continuous professional development through using the sources of medical information and communication technology to remain in current with advances in knowledge and practice. D3.Present information clearly in written, electronic and oral forms. D4. By the end of the course the graduate will be have interpersonal skills and capacity to carry responsibility by Discussion of the lecture topics with the other students in the class and with lecturer after the lecture

11. Course Structure (Theory)					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1		Bacterial Cell, Classification and Growth	PPT	
1	2		Antibiotics & Antibiotic Resistance	PPT	
2	1		Staphylococci	PPT	
2	1		Streptococci (part 1)	PPT	
3	1		Streptococci (part 2) and Enterococcus	PPT	
3	1		Neisseriae, Moraxella catarrhalis and Acinetobacter	PPT	
4	1		Mycobacteria	PPT	
4	1		Enterobacteriaceae (part 1)	PPT	
5	1		Enterobacteriaceae (part 2) and Pseudomonas	PPT	
5	1		Haemophilus, Bordetella and Legionellae	PPT	
6	1		Corynebacterium, Listeria and Erysipelothrix	PPT	
6	1		Clostridia (invasive)	PPT	
7	1		Clostridia (non-invasive) Bacillus	PPT	
7	1		Spirochetes	PPT	
8	1		Introduction to Mycology and Mycetoma	PPT	
8	1		Normal Microbiota and Probiotics	PPT	
9	1		Dermatophytosis	PPT	
9	1		Infections Caused by Anaerobic Bacteria	PPT	
10	1		Candidiasis	PPT	
10	1		Bartonella, Brucella, Francisella, Yersinia and Pasteurella	PPT	
11	1		Cryptococcosis	PPT	
11	1		Mycoplasma	PPT	
12	1		Histoplasmosis	PPT	
12	1		Vibrios, Aeromonas, Campylobacters and Helicobacter	PPT	
13	1		Blastomycosis & Aspergillosis	PPT	
13	1		Sporotrichosis & Antimycotics	PPT	
14	1		Miscellaneous Fungi	PPT	
14	1		Rickettsia & Chlamydia	PPT	
15	1		Microbial genetics	PPT	

11. Course Structure (Theory)					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2		Introduction _ Biosafety & Biosecurity	PPT	
2	2		Basic Bacteriology Techniques staining and instrumentations Media, pure culture, sterilization and colony morphology	PPT	
3	2		Staphylococci	PPT	
4	2		Streptococci	PPT	
5	2		Neisseria, Mycobacterium, Corynebacterium.	PPT	
6	2		Enterobacteriaceae: Lactose fermenters and non-lactose ferment	PPT	
7	2		Pseudomonas, Vibrio, Campylobacter, Haemophilus & Brucella	PPT	
8	2		Clostridium & aerobic bacilli and an aerobic	PPT	
9	2		Urine & stool samples. Blood, CSF, sputum & swabs.	PPT	
10	2		Medical Mycology | introduction	PPT	
11	2		Cutaneous Mycoses	PPT	
12	2		Systemic Mycosis	PPT	
13	2		Subcutaneous Mycoses	PPT	
14	2		Special techniques in medical mycology	PPT	
15	2		Clinical case presentation and diagnosis	PPT	

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. Jawetz Melnick & Adelbergs Medical Microbiology and Immunology, 27 editions 2015. 2. Medical Mycology By Dr. Azhar A. F. Ibrahim. 2013.
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	
Maximum number of students	

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Medicine/ Al-Nahrain university
2. University Department/Centre	Microbiology Department
3. Course title/code	Immunology/MICImm:31
4. Programme(s) to which it contributes	M.B.Ch.B
5. Modes of Attendance offered	Courses
6. Semester/Year	Semester
7. Number of hours tuition (total)	30 theory- 30 practicals
8. Date of production/revision of this specification	
9. Aims of the Course	
This course is designed to enable the student to acquired knowledge about the role of the immune system in maintaining health, contributing against infectious diseases and in pathogenesis of immune system diseases including allergy, hypersensitivity, autoimmunity, immunodeficiency as well as transplantation and tumor. In addition, this course aims to understand the new techniques of diagnosis, appreciate modern vaccine production as well as new generations of immunotherapy.	

1. The students will be able to define the immunological terms, identify the cellular and molecular basis of immune responsiveness as well as describe immunological responses and how it is triggered and regulated.
2. Students describe the pathogenesis of immune response related diseases, determine the proper management, and analyze the risk factors for these diseases.
3. Students value the importance of immune system diseases in community, assess the risk factors of immune related diseases and justify the use of certain vaccines in protecting people from certain dangerous infectious diseases.

10· Learning Outcomes, Teaching, Learning and Assessment Methods
A- Knowledge and Understanding A1. Know the general terms in immunology, definitions and classification A2. Describe the organization and steps of immune response A3. Know the involvement of immune cells in pathogenesis of diseases A4. A5. A6.
B. Subject-specific skills B1. Know the biochemical and serological tests commonly used for pathogen identification and distinguish positive and negative results. B2. Explain how these principles are being applied to knowledge of immunotherapy for different diseases. B3.
Teaching and Learning Methods
Modified lecture (PPT and lecture presentation) Laboratory demonstration of available serological kits Case based studies
Assessment methods
At least 2 quizzes per month Mid-term exam and final exam including long and short essays, multiple choice questions and true & false questions.
C. Thinking Skills C1. Understand the immunopathogenesis of autoimmune, hypersensitivity, immunodeficiency diseases C2. Interpret microbiological, serological reports and be able to determine the appropriate antimicrobial used in treatment different infections.
Teaching and Learning Methods
Modified lecture (PPT and lecture presentation) Laboratory demonstration of available serological kits Case based studies
Assessment methods

At least 2 quizzes per month
Mid-term exam and final exam including long and short essays, multiple choice questions and true & false questions.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Able to collaborates with his colleagues in a team work inside the lab, as well as solving problems.

D2. Students perform basic immunological techniques in diagnosis of different diseases like infectious and immunological diseases, and master writing laboratory tests required for each medical important microorganism, adapt ability to diagnose infectious diseases from clinical feature and to acquire ability to interpret results of laboratory tests and its clinical integration.

D3.

D4.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1		Overview of the Immune System	PPT	Quizzes and oral discussion
1	1		Cells and Organs of the Immune System	PPT	Quizzes and oral discussion
2	1		Innate immunity: Recognition receptors, signaling,	PPT	Quizzes and oral discussion
2	1		Phagocytosis and Inflammation	PPT	Quizzes and oral discussion
3	1		Cytokines	PPT	Quizzes and oral discussion
3	1		Complement	PPT	Quizzes and oral discussion
4	1		Human Leukocyte antigen	PPT	Quizzes and oral discussion
4	1		Adaptive Immunity: Recognition Receptors T & B cell receptors	PPT	Quizzes and oral discussion
5	1		T-Cell Development, Activation, Differentiation, Effector functions and Memory Generation	PPT	Quizzes and oral discussion
5	1		B-Cell Development, Activation, Differentiation, and Memory Generation	PPT	Quizzes and oral discussion
6	1		Antibody generation, diversity and monoclonal Abs	PPT	Quizzes and oral discussion
6	1		Immune system regulation	PPT	Quizzes and oral discussion
7	1		Mucosal Immunology	PPT	Quizzes and oral discussion
7	1		Immunity against infections1	PPT	Quizzes and oral discussion
8	1		Immunity against infections2	PPT	Quizzes and oral discussion
8	1		Immunity against infections3	PPT	Quizzes and oral discussion
9	1		Tumor immunology	PPT	Quizzes and oral discussion
9	1		Hypersensitivity1	PPT	Quizzes and oral discussion
10	1		Hypersensitivity2	PPT	Quizzes and oral discussion
10	1		Hypersensitivity3	PPT	Quizzes and oral discussion
11	1		Tolerance	PPT	Quizzes and oral discussion
11	1		Autoimmunity1	PPT	Quizzes and oral discussion

12	1		Autoimmunity2	PPT	Quizzes and oral discussion
12	1		Immunodeficiency1	PPT	Quizzes and oral discussion
13	1		Immunodeficiency2	PPT	Quizzes and oral discussion
13	1		Transplantation	PPT	Quizzes and oral discussion
14	1		Vaccination	PPT	Quizzes and oral discussion
14	1		Immunotherapy	PPT	Quizzes and oral discussion
15	1		Immunodiagnosis	PPT	Quizzes and oral discussion
15	1		Clinical cases	Case based discussion	Oral discussion

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2		Introduction to Immunology laboratory	PPT & Lab training	Quizzes, oral discussion and interpretation of results Final exam
2	2		Antibody-Antigen (Ab-Ag) reaction (precipitation)	PPT & Lab training	
3	2		Electrophoretic Techniques (Immunoelectrophoresis)	PPT & Lab training	
4	2		Ab-Ag reaction (hemagglutination)	PPT & Lab training	
5	2		Ab-Ag reaction (complement fixation)	PPT & Lab training	
6	2		Rapid Immunoassay	PPT & Lab training	
7	2		Ab-Ag reaction (ELISA) and Immunoblot.	PPT & Lab training	
8	2		Ab-Ag reaction (Immunoflourescence test and RadioImmunoAssay)	PPT & Lab training	
9	2		Cell isolation, Cell counting and functional assessment	PPT & Lab training	
10	2		Flowcytometry	PPT & Lab training	
11	2		Immunocytochemistry (ICC) and Immunohistochemistry (IHC)	PPT & Lab training	
12	2		Evaluation of cell activity assay	PPT & Lab training	
13	2		Cross-matching and HLA-typing	PPT & Lab training	
14	2		Clinical case presentation and diagnosis	PPT & Lab training	
15	2		Clinical case presentation and diagnosis	PPT & Lab training	

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. Owen J, Punt J, Stranford S, Jones P. Kuby Immunology. Macmillan Learning; 2018. 2. Delves PJ, Martin SJ, Burton DR, Roitt IM. Essential Immunology. Wiley; 2017. 3. Chapel H, Haeney M, Misbah S, Snowden N. Essentials of Clinical Immunology, Includes Wiley E-Text. Wiley; 2014.
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures, internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	
Maximum number of students	

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Academic Program Specification Form for The Academic

University: Al-Nahrain
College: Medicine
Department: Microbiology
Date Of Form Completion:

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

Head of Department
Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Medicine/ Al-nahrain university
2. University Department/Centre	Microbiology
3. Programme Title	Microbiology
4. Title of Final Award	M.B.Ch.B
5. Modes of Attendance offered	Courses
6. Accreditation	M.B.Ch.B.
7. Other external influences	
8. Date of production/revision of this specification	1/9/2021
9. Aims of the Programme	
1.1. To educate students about the basic features of general bacterial, fungal, viral and parasitic genetics and helping the students know and understand the action and resistance of different antimicrobial agents.	
1.2. To familiarize students with the common infectious diseases, their microbial causes, as well as laboratory diagnosis, treatment, prevention and control of such diseases and make students aware of the different nosocomial infections and the different principles and measures of infection control.	
1.3. Provide students with the essential knowledge of the structure and function of the immune system, mechanisms of immunity, its role in the pathophysiology of	

infectious and non-infectious diseases and immune mediated diseases as well as the different methods used to diagnose and manage such diseases.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

Knowledge and Understanding

A1. Illustrate the general terms of basic immunology
A2. Understand the mechanisms and steps of immune response
A3. Illustrate general bacterial morphology, physiology and genetics.
A4. Know the principles of growing and cultivating microorganisms and the scientific basis of using antimicrobial agents, their mode of action, application and complications in vivo and in vitro.
A5. Understand the host parasite relationship and microbial pathogenesis.
A6. Know microorganisms of medical importance with emphasis on: morphology, culture, antigenic structure, virulence, pathogenesis, clinical diseases they caused, diagnosis, treatment, prevention and control.

B. Subject-specific skills

B1. Order the appropriate specimen for diagnosis and how to collect them.
B2. Perform and distinguish the results of bacterial, fungal, parasitic and viral.
B3. Identify different microbial culture media (cultured & non cultured)
B4. Know the biochemical and serological tests commonly used for pathogen identification and distinguish positive and negative results.
B5. Know how to practice the basic infection control measures as hand wash, use of different methods of sterilization and disinfection.

Teaching and Learning Methods

Modified lecture (PPT and lecture presentation)
Laboratory demonstration of available serological kits
Case based studies

Assessment methods

At least 2 quizzes per month
Mid-term exam and final exam including long and short essays, multiple choice questions and true & false questions.

C. Thinking Skills

C1. Understand the immunopathogenesis of autoimmune, hypersensitivity, immunodeficiency diseases
C2. Categorize a microorganism as a bacterium, virus or fungus according to standard taxonomy.
C3. Interpret microbiological, serological reports and be able to determine the appropriate antimicrobial used in treatment different infections.
C4. Integrate the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation, focusing on interpretation of laboratory diagnostic tests and reports.

Teaching and Learning Methods

Modified lecture (PPT and lecture presentation) Laboratory demonstration of available serological kits Case based studies
Assessment methods
At least 2 quizzes per month Mid-term exam and final exam including long and short essays, multiple choice questions and true & false questions.

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Able to collaborates with his colleagues in a team work inside the lab, as well as solving problems. D2. Aware and capable of evaluating the risk of disseminating infections in the hospital and community through other cases, carriers or even healthcare workers during manipulating and handling infectious material. D3. Establish life-long self-learning required for continuous professional development through using the sources of medical information and communication technology to remain in current with advances in knowledge and practice. D4.
Teaching and Learning Methods
Aware and capable of evaluating and interpretation of parameters used for diagnosis of infectious diseases and immune mediated diseases
Assessment Methods
At least 2 quizzes per month Mid-term exam and final exam including long and short essays, multiple choice questions and true & false questions. Case based studies

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
3	MICImm:31	Immunology	3	Bachelor Degree Requires (x) credits
3	MICBac:31	Bacteriology and Mycology	3	
3	MICPar:32	Parasitology	3	
3	MICVir:32	Virology	3	

13. Personal Development Planning

none

14. Admission criteria.

Complete the courses anatomy, physiology and biochemistry

15. Key sources of information about the programme

1. Owen J, Punt J, Stranford S, Jones P. Kuby Immunology. Macmillan Learning; 2018.
2. Chapel H, Haeney M, Misbah S, Snowden N. Essentials of Clinical Immunology, Includes Wiley E-Text. Wiley; 2014.
3. Jawetz Melnick & Adelbergs Medical Microbiology and Immunology, 27 editions 2015.
4. Medical Mycology By Dr. Azhar A. F. Ibrahim. 2013.
5.

Curriculum Skills Map																	
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																	
				Programme Learning Outcomes													
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
3rd	MICImm:31	Immunology		X	X	X	X	X	X	X	X	X	X	X		X	X	X	
	MICBac:31	Bacteriology& Mycology		X	X	X	X	X	X	X	X	X	X	X		X	X		
	MICPar32	Parasitology		X	X	X	X	X	X	X	X	X	X	X		X	X	X	
	MICVir:32	Virology		X	X	X	X	X	X	X	X	X	X	X		X	X	X	

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Medicine/ Al-nahrain university
2. University Department/Centre	Microbiology
3. Course title/code	Parasitology/MICPar:32
4. Programme(s) to which it contributes	M.B.Ch.B
5. Modes of Attendance offered	Courses
6. Semester/Year	2/3
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	
9. Aims of the Course	
This course is designed to introduce students to the medical parasitology field, provide complete information for students to know about parasites in respect to the classification,	

pathogenesis, understand new techniques of diagnosis, and prevention. In addition, this course aims at overviewing the role of parasites in human morbidity and mortality.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

1. Students define parasitological terms, list and determine the important medical parasites along with their classification. Describe the pathogenicity and pathogenesis of medically important parasites and related diseases. State the mode of remission of parasitic infections, determine the proper management, and analyze the risk factors for parasitic infections.

2. Students perform basic techniques in diagnosis of parasitic diseases, and master writing laboratory tests required for each parasite, adapt ability to diagnose parasitic infections from clinical feature and to acquire ability to interpret results of laboratory tests and its clinical integration.

3. Students value the importance of parasitic infections in morbidity and mortality of community, assess the risk factors of parasitic infections and emphasize on using the proper diagnostic methods of parasitic infections.

A4. Apply knowledge for a student to develop diagnostic skills in microbiology, including the practical application and interpretation of laboratory tests for the diagnosis of infectious diseases.

A5.

A6.

B. Subject-specific skills

B1. Preparation of samples for direct or indirect examination

B2.

B3.

Teaching and Learning Methods

lectures, small-group teaching, case-based learning, clinical skills laboratory training,

Assessment methods

1. open discussions

2. thinking indirect question

C. Thinking Skills

C1. interpret the results and identify the causative agent

C2.

C3.

C4.

Teaching and Learning Methods
lectures, small-group teaching, case-based learning, clinical skills laboratory training,
Assessment methods
1. open discussions 2. thinking indirect questions

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1.Aware and capable of evaluating the risk of disseminating infections in the hospital and community through other cases, carriers or even healthcare workers during manipulating and handling infectious material.

D2.Establish life-long self-learning required for continuous professional development through using the sources of medical information and communication technology to remain in current with advances in knowledge and practice.

D3.Present information clearly in written, electronic and oral forms.

D4. By the end of the course the graduate will be have interpersonal skills and capacity to carry responsibility by Discussion of the lecture topics with the other students in the class and with lecturer after the lecture

11. Course Structure (Theory)					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1		Introduction, classification, definitions	PPT	
1	1		host-parasite relationships.	PPT	
2	1		Nematodes: Enterobius vermicularis	PPT	
2	1		Ascaris lumbricoides,	PPT	
3	1		Trichuris trichiura. Strongyloides stercoralis	PPT	
3	1		Hookworms	PPT	
4	1		Hookworms and Trichinell aspiralis	PPT	
4	1		Introduction to filaria	PPT	
5	1		Continue filaria	PPT	
5	1		Trematodes: Introduction, blood flukes: Schistosoma.	PPT	
6	1		Other flukes: Intestinal, pulmonary, hepatic.	PPT	
6	1		Cestodes: Introduction	PPT	
7	1		Echinococcus granulosus and E.multilocularis	PPT	
7	1		H. nana and H.diumutia, Taenia solium, Taenia saginata	PPT	
8	1		Dipylidium caninum, Diphyllobothrium	PPT	
8	1		Introduction to protozoa: Amoebae: Entamoeba histolytica	PPT	
9	1		Non-pathogenic Amoebae (E.coli, E.dispar, E.gengivalis),	PPT	
9	1		Opportunistic Amoebae (Naegleria fowleri, Acanthamoeba spp.)	PPT	
10	1		Flagellates: Intestinal, Oral and Genital Flagellates (Giardia lamblia,	PPT	
10	1		Trichomonas vaginalis, T.tenax)	PPT	
11	1		Blood and tissue Flagellates: Old and New World Leishmaniasis	PPT	
11	1		Blood and Tissue Flagellates: Trypanosomes	PPT	
12	1		Sporozoa: Malaria parasites.	PPT	
12	1		Toxoplasma and Cryptosporidium	PPT	
13	1		Ciliate and Medical Entomology	PPT	
13	1		Ciliate and Medical Entomology	PPT	
14	1		Molecular Parasitology	PPT	
14	1		Blood and tissue Flagellates: Old and New World Leishmaniasis	PPT	
15	1			PPT	
15	1				

11. Course Structure (Theory)					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2		Introduction: Safety, Stool, blood, urine and other samples examination	PPT	
2	2		*Ascaris lumbricoides, Enterobius vermicularis,* *Trichuris trichiura.*	PPT	
3	2		Hookworms and *Strongyloides stercoralis*	PPT	
4	2		*Trichinella spiralis and* Filaria	PPT	
5	2		*Schistosoma* and Other flukes: Intestinal, pulmonary, hepatic**.**	PPT	
6	2		*Echinococcus granulosus, E.multilocularis,*	PPT	
7	2		*H. nana, H.diumutia, Taenia solium* and *Taenia saginata , Dipylidium caninum, Diphyllobothrium*	PPT	
8	2		*Entamoeba histolytica E. coli, E.dispar, E. gengivalis*, Opportunistic Amoebae **(***Naegleria fowleri, Acanthamoeba spp.***)**	PPT	
9	2		*Giardia lamblia and Trichomonas vaginalis.*	PPT	
10	2		Old and New World *Leishmaniasis* and *Trypanosomes*	PPT	
11	2		*Malaria* parasites	PPT	
12	2		*Toxoplasma and Cryptosporidium*	PPT	
13	2		*Ciliate and Medical Entomology*	PPT	
14	2		*Unknown samples (Stool and urine)*	PPT	
15	2		Clinical cases	PPT	

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. Paniker s Textbook of Medical Parasitology 7E (**2013**) Jawetz Melnick & Adelbergs Medical Microbiology and Immunology, 27 editions 2015. 2. Paniker s Textbook of Medical Parasitology 7E (**2013**)
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	
Maximum number of students	

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

This course teaches viruses medically related to humans. Topic covered are introduction on viruses, life cycle, pathogenesis, tropism, and viral diagnosis approaches and antiviral treatment and vaccination.

DNA and RNA viruses are involved. Their clinical feature, pathogenesis, diagnosis, treatment and prevention are discussed

1. Teaching Institution	College of Medicine/ Al-nahrain unviersity
2. University Department/Centre	Microbiology Department
3. Course title/code	Virology/MICVir:32
4. Programme (s) to which it contributes	M.B.Ch.B
5. Modes of Attendance offered	Courses
6. Semester/Year	Semester
7. Number of hours tuition (total)	30 theory- 30 practical
8. Date of production/revision of this specification	

9. Aims of the Course

1. To get knowledge of viruses important in health of humans
2. To understand how to classify viruses cause diseases
3. To acquire skill how to diagnose viral diseases
4. To know how to apply proper treatment
5. To be able to apply prevention methods

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A1. To define and classify viruses implicated in human diseases
A2. To describe medical viruses
A3. To identify viruses responsible for virally important diseases
A4. To diagnose viral dieasese
A5. To analyze the laboratory tests for identifying medical viruses
A6 . To illustrate life cycle of viruses
A7. To apply knowledge in physcians' career

B. Subject-specific skills

B1. To manipulate needed skills for diagnosis and treatment of medical viruses
B2. To use proper approaches of management and treatment of viral diseases
B3.

Teaching and Learning Methods

1. power-point or presentation
2. explanation of key points for the students
3. use of visual and auditory means such as figures, animation, movie clips..etc
4. interactive discussion of key topic of the lecture
5. use white board for clarifying some points
6. practical labs for teaching practical topics of isolating, identifying viruses

Assessment methods

1. interactive discussions under assessment
2. short oral questions during the lecture
3. written quizzes
4. mid and final exams using 70% MCQ and 30 essay questions
5. Practical examinations mid and final

C. Thinking Skills

C1. To raise attitude in students to explain viewpoints on taught topics

C2. To share ideas of how dealing with viral diseases and viral agents

C3.

C4.

Teaching and Learning Methods

1. interactive discussions under assessment
2. short oral questions during the lecture
3. written quizzes
4. mid and final exams using 70% MCQ and 30 essay questions
5. Practical examinations mid and final

Assessment methods

1. open discussions
2. thinking indirect questions

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1.

D2.

D3.

D4.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1		General prosperities & classification of viruses -New tables of classification - Mnemonics for virology classification	PPT	
1	1		Viral replication and genetics	PPT	
2	1		Cultivation of viruses, effect of virus on host cells Pathogenesis of viral diseases (acute, chronic, latent, and slow viral infection) Immunopathology of viruses	PPT	
2	1		Prevention and treatment of viral infections: Viral vaccines and interferon.	PPT	
3	1		Antiviral chemotherapy	PPT	
3	1		Medically important non-enveloped DNA viruses	PPT	
4	1		Medically important enveloped DNA viruses (1) - Vaccine trials Updated therapies	PPT	
4	1		Medically important enveloped DNA viruses (2) Vaccine trials to overcome latency of viruses Updated therapies New diagnostic approaches (rapid viral detection kits)	PPT	
5	1		Orthomyxoviruses (1)	PPT	
5	1		Orthomyxoviruses (2)	PPT	
6	1		Paramyxoviruses	PPT	
6	1		Hepatitis viruses (1)	PPT	
7	1		Hepatitis viruses (2) ***(newly introduced anti-hepatitis drugs, and HCV vaccination trials)**	PPT	
7	1		Rubella virus and other congenital viral infection **Mechanism of Teratogenesis**	PPT	
8	1		Rhabdovirus , RNA non-enveloped viruses	PPT	
8	1		Picornaviruses **Reemergence of Poliomyelitis in eradicated areas**	PPT	

9	1		Mid-exam	PPT	
9	1		Rotavirus ***(newly introduced Rota virus vaccine in Iraq)** **Immunity to Rota virus**	PPT	
10	1		Rabies	PPT	
10	1		Retroviruses (1)	PPT	
11	1		Retroviruses (2) ***(HIV vaccines and curative therapy in HIV CHILDREN)**	PPT	
11	1		HIV, AIDS management	PPT	
12	1		Corona virus, SARS	PPT	
12	1		Arboviruses and ***Ebola Virus Zeka virus, Dengue virus**	PPT	
13	1		Human Cancer viruses **Mechanism 0f HPV carcinogenesis**	PPT	
13	1		Human Cancer viruses ***(NEWLY DISCOVERED ONCOGENIC VIRUSES)** **Merkle cell polyomaviruses , BKV and JCV.**	PPT	
14	1		***Bacteriophages** **- Phage therapy** **- Phage adjuvant therapies**	PPT	
14	1		**Review of medically important virological clinical cases**	Case based discussion	
15	1		**Review of medically important virological clinical cases**	Case based discussion	

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1		Introduction: Methods of diagnosing and detecting viral infections	PPT	
2	1		Preparation of tissue culture, and Types of tissue culture systems	PPT	
3	1		Inoculation of clinical sample in tissue culture	PPT	
4	1		Detection of virus growth in tissue culture, demonstration of different cytopathic effects	PPT	
5	1		Viral Titration and $TCID_{50}$	PPT	
6	1		Indirect methods: serology (ELISA, CFT and hemagglutination inhibition test).	PPT	
7	1		Detection of viruses using immunocytochemistry (ICC) (viral antigeneamia assay) and Immunohistochemistry (IHC).	PPT	
8	1		Detection of viruses using conventional polymerase chain reaction (PCR)	PPT	
9	1		Detection and quantification of viral load using Real time polymerase chain reaction (RT-PCR)	PPT	
10	1		Isolation and preparation of Bacteriophages	PPT	
11	1		Detection of viruses using EM and immuno-electon microscopy (IEM). (By collaboration with the Biology Department to demonstrate preparation of viral isolate from tissue culture into a grid to be examined under EM)	PPT	
12	1		Strategies of clinical, routine lab, and advanced virological diagnosis	PPT	
13	1		Rapid diagnostic tests for viruses	PPT	
14	1		Detection of viruses in tissues using In situ hybridization (ISH)	PPT	
15	1		Clinical cases review	Case based discussion	

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Riedel, S., Morse, S.A., Mietzner, T.A. and Miller, S. (2019), *Jawetz Melnick & Adelbergs Medical Microbiology 28 E*, McGraw-Hill Education.
Special requirements (include for example workshops, periodicals, IT software, websites)	None
Community-based facilities (include for example, guest Lectures , internship , field studies)	None

13. Admissions	
Pre-requisites	
Minimum number of students	Centrally determined
Maximum number of students	Centrally determined