In the name of God

Course plan form

Part A:

Education year: 2025	**Semester:** First	**Lesson name:** Medical Virology
Educational department: Virology and Bacteriology	**Lesson type:** Theory	**Prerequisite lessons:** not required
Field: MD/MBBS (Medicine)	**Step:** Basic	**Day and time of class:** On Saturdays, 10-12 am
Class number: YAS 105	**In charge of professor:** Dr. Elham Mousavi	

Part B: General objectives of the lesson

1.Understanding Basic Concepts

Students will be able to define what viruses are and distinguish them from other microorganisms.

Students will identify and describe the basic structure of viruses, including components such as capsid, envelope, and genetic material.

Students will classify different types of viruses based on their characteristics, such as shape, type of nucleic acid, and method of replication.

Students will explain how viruses infect host cells and the process of viral replication.

Students will discuss the modes of transmission of viral infections and methods for prevention and control.

2. **Familiarization with the most important pathogenic viral families for humans including**

A. Parvoviridae

B. Papillomaviradae

C. Herpesviridae

D. Viral Hepatitis

E. Retroviridae (HIV)

F. Respiratory viruses (Orthomyxoviridae, Paramyxoviridae Coronaviridae, and other viruses)

G. Arboviruses

Title: General virology
Main Sources: Medical Microbiology by Jawetz,
Number of sessions: 3

Specific objectives	Developmental evaluation methods	Teaching method	Educational tools	Comprehensive assignment
1.History of Virus Discovery 2. Introduction to Virology 3.Virus structure 4. Classification of Viruses 5.Viral Replication 6. Transmission routes of viruses 8. Pathogenicity of viruses 9. Prevention and treatment of viral diseases	1.Participation in Q&A 2. Exam with Multiple-Choice	Lecture and Q&A	1.Video Projector 2.Computer 3.Whiteboard	Midterm and final Exam with Multiple-Choice

By the end of these sessions, students are expected to be able to:
1.Describe a brief history of Virology.
2.Name the different families of viruses.
3.Identify the differences between various types of viruses.
4. List the most important characteristics of viruses and differentiate them from prokaryotic cells (bacteria).
5.Identify the routes of virus transmission to hosts.
6. Understand the mechanisms of viral pathogenicity in hosts.
7. Name different types of viral vaccines with examples.

Title: Parvoviridae and Papillomaviridae family
Main Sources: Medical Microbiology by Jawetz,
Number of sessions: 1

Specific objectives	Developmental evaluation methods	Teaching method	Educational tools	Comprehensive assignment
1.Familiarity with the pathogenic viruses in Parvovirus and Papillomavirus families. 2. Familiarity with diseases associated with Parvovirus and Papillomavirus. 3. the transmission routes and pathogenicity 4. Familiarity with the prevention and treatment approaches	1.Participation in Q&A 2. Exam with Multiple-Choice Questions	Lecture and Q&A	1.Video Projector 2.Computer 3.Whiteboard	Midterm and final Exam with Multiple-Choice

By the end of this session, students are expected to be able to:
1.Be aware of the most important diseases caused by parvoviruses and Papillomaviruses, their modes of transmission, and their pathogenicity.
2. Be aware of the diagnosis, treatment, and prevention methods for infections caused by these viruses.

Title: Herpesviridae family
Main Sources: Medical Microbiology by Jawetz,
Number of sessions: 1

Specific objectives	Developmental evaluation methods	Teaching method	Educational tools	Comprehensive assignment
1.Familiarity with Herpesviruses 2. Familiarity with diseases associated with herpesviruses. 3. the transmission routes and pathogenicity 4. Familiarity with the prevention and treatment approaches	1.Participation in Q&A 2. Exam with Multiple-Choice Questions	Lecture and Q&A	1.Video Projector 2.Computer 3.Whiteboard	Midterm and final Exam with Multiple-Choice

By the end of this session, students are expected to be able to:
1.Be aware of the most important diseases caused by herpesviruses, their modes of transmission, and their pathogenicity.
2. Be aware of the diagnosis, treatment, and prevention methods for infections caused by these viruses.

Title: Viral Hepatitis
Main Sources: Medical Microbiology by Jawetz,
Number of sessions: 1

Specific objectives	Developmental evaluation methods	Teaching method	Educational tools	Comprehensive assignment
1.Familiarity with Viral Hepatitis 2. Familiarity with the transmission routes and pathogenicity 4.Familiarity with the prevention and treatment approaches	1.Participation in Q&A 2. Exam with Multiple-Choice Questions	Lecture and Q&A	1.Video Projector 2.Computer 3.Whiteboard	Midterm and final Exam with Multiple-Choice

By the end of this session, students are expected to be able to:
1.Be aware of the most important viruses caused by hepatitis, their routes of transmission, and their pathogenicity.
2. Be aware of the diagnosis, treatment, and prevention methods for infections caused by viral hepatitis.

Title: Retroviridae family
Main Sources: Medical Microbiology by Jawetz,
Number of sessions: 1

Specific objectives	Developmental evaluation methods	Teaching method	Educational tools	Comprehensive assignment
1.Familiarity with HIV and HTLV 2. Familiarity with the transmission routes and pathogenicity 4.Familiarity with the prevention and treatment approaches	1.Participation in Q&A 2. Exam with Multiple-Choice Questions	Lecture and Q&A	1.Video Projector 2.Computer 3.Whiteboard	Midterm and final Exam with Multiple-Choice

By the end of this session, students are expected to be able to:
1.Be aware of HIV and HTLV, their routes of transmission, and their pathogenicity.
2. Be aware of the diagnosis, treatment, and prevention methods of HIV

Title: Respiratory viruses
Main Sources: Medical Microbiology by Jawetz,
Number of sessions: 1

Specific objectives	Developmental evaluation methods	Teaching method	Educational tools	Comprehensive assignment
1.Familiarity with the most important respiratory viruses in Orthomyxoviridae, Paramyxoviridae, and Coronaviridae families 2.Familiarity with the clinical symptoms of respiratory infections.	1.Participation in Q&A 2. Exam with Multiple-Choice Questions	Lecture and Q&A	1.Video Projector 2.Computer 3.Whiteboard	Midterm and final Exam with Multiple-Choice

By the end of this session, students are expected to be able to:
1.Become familiar with the types of viral respiratory infections and their associated clinical symptoms
2.Be aware of the diagnosis and treatment of viral respiratory infections.

Title: Arboviruses
Main Sources: Medical Microbiology by Jawetz,
Number of sessions: 1

Specific objectives	Developmental evaluation methods	Teaching method	Educational tools	Comprehensive assignment
1.Familiarity with different types of arboviruses, including dengue fever virus, yellow fever virus, Crimean-Congo virus and others 2.Familiarity with their vectors 3. Familiarity with the transmission routes and pathogenicity 4. Familiarity with the prevention and treatment approaches	1.Participation in Q&A 2. Exam with Multiple-Choice Questions	Lecture and Q&A	1.Video Projector 2.Computer 3.Whiteboard	Midterm and final Exam with Multiple-Choice

By the end of this session, students are expected to be able to:
1.Become familiar with different types of arboviruses and clinical symptoms associated to those
2.Be aware of the diagnosis and treatment of Arboviruses infections.