



# MEDICAL VIROLOGY SUBJECT INSTRUCTIONS

Khder Hussein Rasul

Medical Virology-Theory and MA 403

Summer Term

First week

12/08/2024



- TISHK International University
- Department of Medical Analysis
- Subject: Medical Virology
- Grade: forth Stage
- Lecturer's name-Khder Hussein Rasul
- Academic Year: 2023/2024



- Department: Medical Analysis
- Course name: Medical Virology
- Lecturer: Khder Hussein Rasul
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- Time (in hours) per week: 4hr./ week



# Course overview

This course provides an in-depth exploration of the field of medical virology, focusing on the study of viruses that impact human health. Explores basic virology, virus structure, virus replication strategies, international classification of virus, reaction to chemical and physical agents and molecular approaches to the development of viral vaccines.



# Course objectives

- Define common terms used in virology and the history of virology.
- Viral structures
- International classification of virus
- Compare different virus replication strategies and genome coding strategies
- Relation of Viruses to different kind of Cancer
- Uses of viruses in therapy
- Immune Responses to Viruses.



# The Course Keywords

- Virus
- Capsid
- Viral envelope
- Viral replication
- Viral genome
- Antiviral drugs
- Vaccination
- Pathogenesis



# Student's obligation

- **Exam policy:**

Student should take exam during the course

- **Classroom polices:**

**1. Attendance:** students are strongly encouraged to attend in class on a regular basis, as participation is important to understanding of the material. This is students opportunity to ask questions. Students are responsible for obtaining any information during the class which provided.

**2. Lateness:** Lateness to class is disruptive

**3. Electronic devices:** Not allowed to use in the class.

**4. Talking:** During class, please refrain from side conversations. These can be disruptive to your fellow students



# My expectation

1. Participate in discussions
2. Let me know when you experience problems, so I have a chance to assist you
3. Respect classmates and instructor





# You can expect of me

1. Knowledge and expertise
2. Effective communication
3. Accessibility and availability
4. Respect for diversity
5. Make scientific environment
6. Listen to your ideas
7. Quick response to your inquiries
8. Assessment and feedback



# Forms of teaching

- Using power point
- White board
- Scientific animations during teaching time



# Topics

1. MEDICAL virology subject instructions
2. Introduction to virology
3. Viral structure and classification
4. Viral replication
5. Viral genetics
6. Viral pathogenesis
7. Viral families and associated diseases
8. Viruses and cancer
9. Viral vectors and gene therapy
10. Antiviral drugs and vaccines
11. Bioinformatics in medical virology
12. Laboratory techniques in virology
13. Enveloped viruses
14. Non-enveloped viruses



# Blanks

1. Viruses are considered \_\_\_\_\_ because they cannot carry out essential life processes on their own and depend on host cells for replication.
2. The outer protein coat of a virus is called the \_\_\_\_\_, which encloses the genetic material.
3. The process by which a virus enters a host cell is called \_\_\_\_\_.
4. \_\_\_\_\_ is the term used to describe the specific molecule on the surface of a host cell to which a virus can bind.
5. The ability of a virus to cause disease is referred to as its \_\_\_\_\_.



# True or false

1. Viruses are considered living organisms.
2. All viruses have capsid and genetic material.
3. Antibiotics are effective in treating viral infections
4. Vaccines work by exposing the body to a weakened or inactivated form of the virus to build immunity.
5. HIV is an example of a retrovirus, which contains RNA as its genetic material.



# Blanks

1. The protein subunits that make up the capsid of a virus are called \_\_\_\_\_.
2. The process by which a virus integrates its genetic material into the host cell's DNA is called \_\_\_\_\_.
3. Viral infections can sometimes lead to the development of \_\_\_\_\_ immunity, where the host becomes immune to future infections by the same virus.
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# True or false

1. Viruses are typically larger in size compared to bacteria.
2. The envelope of a virus is always derived from the host cell's membrane.
3. Herpes viruses can establish latent infections, remaining dormant within the host and reactivating later.
4. A virus can infect any type of cell within a host organism, without any specificity for particular cell types.
5. Retroviruses, like HIV, integrate their genetic material into the host cell's genome, becoming a permanent part of the host's DNA.