

# **Modern Advances in Virology**

## **612 Microbiology**

- 1- Origin and evolution of viruses.
- 2- Gene expression systems.
- 3- Molecular-based viral vaccines.
- 4- Phage display.
- 5- Modern techniques used for virus diagnosis:
  - a. Real-time PCR
  - b. NASBA
  - c. LAMP
  - d. Microarray
- 6- Phylogenetic analysis of viral genomes.
- 7- Selected articles.

1- Origin and evolution of viruses.

Origin and evolution of viruses (Chp. 7,14)

2- Gene expression systems.

Gene expression systems (Introduction, Chp. 8, 12)

3- Molecular-based viral vaccines.

Veterinary Virology (chp. 13; 228-233)

4- Phage display.

Phage display of peptides and proteins (Chp. 2)

5- Modern techniques used for virus diagnosis:

a. Real-time PCR

b. Isothermal amplification (3 reviews and papers)

c. Microarray(Microarray technology and its applications; Chp. 1)

6- Phylogenetic analysis of viral genomes (Report I)

7- Selected articles.