Syllabus

Principles of Virology - 71510

Last update 07-09-2015

**HU Credits:** 2

**Degree/Cycle:** 1st degree (Bachelor)

**Responsible Department:** agroecology & plant health

**Academic year:** 0

**Semester:** 2nd Semester

**Teaching Languages:** Hebrew

**Campus:** Rehovot

**Course/Module Coordinator:** Prof. Nor Chejanovsky

**Coordinator Email:** ninar@volcani.agri.gov.il

**Coordinator Office Hours:** by appointment

**Teaching Staff:**
  Prof Nor Chejanovsky
  Dr. Munir Mawassi
Course/Module description:  
The course is aimed to introduce the student to the Virology word. Describing what is a virus. It deals with classification of viruses and tools to study viruses. It addresses viral infections focusing on viral entry and modes of replication of animal and plant viruses as well as pathology associated with them, including oncoviruses. It visits Viroids and satellite RNAs as agents of plant disease. Finally it allows a glimpse on the use of viruses as vectors of gene expression in human health and agriculture.

Course/Module aims:  
The aim of the course is to provide the basis to understand the biology of plant and animal viruses.

Learning outcomes - On successful completion of this module, students should be able to:  
At the end of the course the student will have the basic knowledge about classification of viruses, basic mechanisms of viral infection and replication, diagnostic and research tools applied in virology.

Attendance requirements(%):  
70

Teaching arrangement and method of instruction: Frontal teaching.

Course/Module Content:  
- plant viruses introduction, structure, genome structure, families and groups 
  viruses replication methods and reproduction in plants  
- animal viruses introduction, infection and classification 
  culture and identification of viruses 
  viral receptors and cell invasion  
- animal RNA viruses, replication, transcription, RNA processing and polyadenylation. 
  capping, recombinations, genetic variability, defective RNA  
- retroviruses, viral induced transformation and oncogenesis  
- plant virus movement, virus transmission by vectors  
- replication of animal DNA viruses. 
- translation of viral RNA 
- assembly of viral particles
- cell to cell movement of animal viruses
- molecular biology of closteroviruses
- RNA silencing in virus-infected plants
- Pathogenesis induced by animal viruses, immunity.
- Animal viruses as vectors

**Required Reading:**


**Additional Reading Material:**

**Course/Module evaluation:**
End of year written/oral examination 100 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

**Additional information:**
none