

Course specifications

Programme(s) on which the course is given: M.Sc.
Major or minor element of programmes: Major
Department offering the programme: Botany
Department offering the course: Botany
Academic year / Level: One year
Date of specification approval: 6/6/2010

A- Basic Information

Title: Advanced Virology **Code :B 583**
Credit Hours: 3 **Lecture:2**
Tutorial: 0.0 **Practical:2** **Total:4**

Teaching staff: Dr. Magdy M El-Shamy

B- Professional Information

1 – Overall aims of course

After studying this course the student should be able to understand the special information in different branches in virology (plant, animal, bacterial, fungal and algal viruses) and how to differentiate between them.

2 – Intended learning outcomes of course (ILOs)

- a- Knowledge and understanding:**
- a1-Understand the special identity and general characters of virus.
 - a2- Mention and describe the different terms in virology.
 - a3-Explain the features of internal and external viral symptoms and different methods of control.
- b- Intellectual skills**
- b1- Differentiate between different sizes of plant and animal viruses.
 - b2- Identify the viral diseases correctly.
 - b3- Make clear purification of certain plant virus.
- c- Professional and practical skills**
- c1-Use appropriate lab experiments and tools to characterize the nucleic acid content of the virus (RNA and DNA).
 - c2- Perform experiments in the lab to differentiate between viruses according to their serological reactions.
 - c3-Collet data about the the analysis of the protein content of the virus.
- d- General and transferable skills**
- d1- Write scientific essays about virology.

- d2- Use the internet to download data about construction of a cryptogram.
d3.- Find information independently about unknown virus.

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
General characters of the virus	2	2	2
Host and tissue specificity	2	2	2
Hosts of viruses	2	2	2
Some terms used in virology	2	2	2
Effect of viral infection on the virus	2	2	2
Inclusion, elementary, amorphous and crystalline bodies	2	2	2
Characters for viral classification	2	2	2
ICTV- approved groups and viral families	2	2	2
Isolation and purification of viruses	2	2	2
Filtration, sedimentation and electron microscopy	2	2	2
Physical and chemical properties of viruses	2	2	2
Serological tests	2	2	2
ELISA and PR tests	2	2	2

4- Teaching and learning methods

- 4.1- Lectures.
4.2-Discussions.
4.3-Practical demonstration.

5- Student assessment methods

- 5.1 –Mid term written exam to assess understanding competencies.
5.2 –Mid term practical exam. to assess Laboratory performance.
5.3 –Semester short exam to assess understanding and experience.
5.4 –Final written exam to assess experience and professionalism.
5.5 –Final practical exam to assess experience and professionalism.

Assessment schedule

Assessment 1 Mid term	week 7
Assessment 2 Semester activities	week 3, 5, 9
Assessment 3 Final term practical exam	week 13
Assessment 4 Final term written exam	week 14
Total	100%

Weighting of assessments

Mid-Term Examination (written + practical)	20%
Final-term Examination (written + practical)	60%
Oral Examination.	10%
Semester short exams	10%
Total	100%

6- List of references

6.1- Course Notes

" lectures in virology" Botany department

6.2- Essential Books(Text Books)

Text books titled as "Virolog", "Viruses"

6.3- recommended Books

6.4- periodicals, Web Sites,.....etc

6.5- Plant viruses by C. L. Mandahar

7- Facilities required for teaching and learning

Lecture theater, Lab,reserved and fresh diseased specimens, microscopes, T.V-demonstrating system.

Course coordinator:. **Dr. Magdy M El-Shamy**

Head of Department: Prof. Mohamed Ali

Date: 6 / 6 / 2010