Virology Gr.2
Monday 9:30-12:00 @ KMB3216
Instructor: Assist.Prof.Dr. Alper Yilmaz
Email: alyilmaz@yildiz.edu.tr
Office Hours: by appointment
http://yarbis.yildiz.edu.tr/alyilmaz/course/viewCourse/id/6378

Course Goals

In this course, you will:

1. Learn complexity and diversity of viruses.
2. Learn that viruses help understand cellular mechanisms and they excelled at many aspects (e.g. trafficking).
3. Understand that viruses hack the system (i.e. cell) and usually use a workarounds, **even by overriding dogmas**, to tackle with various barriers.

Course Materials

Course textbook(s) are *Virology: Principles and Applications* by John Carter and Venetia Saunders (2007). In addition we might refer to another book, *Fundamentals of Molecular Virology* by Nicholas Acheson (2011).

Lecture notes are handed in copy center across our department. PDF versions of lecture slides can be downloaded from YARBIS page.

Lecture notes contain more pics with sparse text, thus you need to listen the instructor and take notes.

Grading

Your grade will come from the following sources:

- Midterm: 35%
- Final: 35%
- Quiz: 15%
- Assignment: 10%
- Attendance: 5%

There will be 4 quizes and 3 highest scores will be considered. If you attend all lectures or miss only one lecture then you'll get 5 points. For every 1-2 lectures missed you'll lose 1 point.

Final exam will be from lectures discussed after Midterm exam.

Number and content of assignments will be provided later. The assignments will be related to "applications of a given virus to bioengineering problems".

Communication

I'm trying to respond emails as quickly as possible. If you don't get a response within 1-2 days please don't hesitate to send a reminder email.

The changes pertaining to exam date, time and assignment due dates should be decided in class after discussing with everybody. Please don't ask for changes individually, otherwise notification of whole class becomes a hassle.

Schedule

Below is the tentative schedule for the course. Depending on the speed we go through topics there might be shifts in the schedule.

February 15. Introduction

Introduction to virology and various fields related to virology. Overview of complexity and diversity of viruses, their genomes an proteins. Main differences between enveloped and non-enveloped viruses.

February 22. Methods Used in Virology & Virus Structure

Chapter 2 and *Chapter 3* in our textbook.

Mechanisms

February 29. Attachment, Entry, Translation and Transport

Chapter 5 and *Chapter 6* in our textbook.

March 7. Virus Genome Replication & Assembly and Exit

Chapter 7 and *Chapter 8* in our textbook.

March 7. Classification and Nomenclature of Viruses

Chapter 10 in our textbook.

Individual Virus Families

March 14. Herpesviruses and Other dsDNA Viruses

Chapter 11 in our textbook.

March 21. Parvoviruses and Other ssDNA Viruses

Chapter 12 in our textbook.

March 28. Reoviruses and Other dsRNA Viruses

Chapter 13 in our textbook.

April 4. Picornaviruses and Other Plus-strand RNA Viruses

Chapter 14 in our textbook.

(April 11). Midterm

April 18. Rhabdoviruses and Other Minus-strand RNA Viruses

Chapter 15 in our textbook.

April 25. Retroviruses

Chapter 16 in our textbook.

May 2. Retroviruses (cont'd) & HIV

Chapter 16 and *Chapter 17* in our textbook.

May 9. Hepadnaviruses and Other Reverse-transcribing DNA Viruses

Chapter 18 in our textbook

May 16. Evolution and Emerging of Viruses

Chapter 20 and *Chapter 21* in our textbook.

May 23. Resistance of Infectivity and Vaccines (Final Lecture).

Chapter 23 and *Chapter 24* in our textbook.

Acknowledgments

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