Biology 544: Principles of Virology

Instructors
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Course Objective
The primary objective in this course is to give you an understanding of general virology including viral structure, replication, virus-host interactions and natural and artificial control of viruses.

Texts & Reading Materials


Additional:  Scientific articles will accompany text material for certain lectures. These materials are subject for test questions.

Course Details

Lecture:
Four exams plus a final will be given. These exams will include any of the material covered in lecture that follows the previous exam. Exams will include multiple-choice, T/F, matching, short-answer and short-essay type questions.
Letter grades will be assigned as follows:

- A  (600-540)
- B  (539-480)
- C  (479-420)
- D  (419-360)
- F  (< 359)

Lecture Exam I    100pts _______
Lecture Exam II    100pts _______
Lecture Exam III   100pts _______
Lecture Exam IV    100pts _______
Final Exam         100pts _______
Project/Presentation 100pts _______

Comments

It is essential that you keep up with the material. The nature of the course is such that much of the material will be entirely new to you. Please do not study for an exam on only the night before. That will likely yield undesirable results.

Class participation is encouraged. In lecture you are encouraged to ask questions and make comments pertaining to the material being discussed.

Note that all exams are the property of the instructor and should be returned after in-class review.

If the university officially cancels class on the day of a scheduled exam, the exam will be administered during the next regularly scheduled class period.

Tentative Lecture Syllabus

<table>
<thead>
<tr>
<th>Text Assignment</th>
<th>Lecture Topic</th>
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<tbody>
<tr>
<td>8-24 CH1</td>
<td>Definition of a virus</td>
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<tr>
<td>CH2</td>
<td>Methods of study</td>
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<tr>
<td>8-26 CH3</td>
<td>Viral structure</td>
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<td>8-31 CH4</td>
<td>Viral nucleic acids</td>
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<td>9-2 CH5</td>
<td>Viral attachment and entry into the host cell</td>
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<td>9-7 CH6</td>
<td>Replication of viral DNA</td>
</tr>
<tr>
<td>9-9 CH7</td>
<td>RNA viruses: Synthesis of genomic RNA</td>
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</tbody>
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EXAM I – Tuesday 9/14
9-16 CH8 Replication of RNA viruses with a DNA intermediate
Replication of DNA viruses with a RNA intermediate

9-21 CH9 DNA viruses: Gene expression and gene regulation
9-23 CH10 RNA viruses: Gene expression and gene regulation
9-28 CH11 Virus assembly
9-30 CH12 Bacteriophage: The lytic and lysogenic replication cycles

EXAM II – Tuesday 10/5

10-7 CH13 Outcomes of viral infection: Cellular level
10-14 CH14 Basic immunology and viral antigens
10-19 CH14 Basic immunology and resistance to disease
10-21 CH15 Animal virus-host interactions

EXAM III – Tuesday 10/26

10-28 Vaccines
11-2 CH16 Chemotherapy
11-4 CH17 Carcinogenesis: tumor viruses
11-9 CH17 Carcinogenesis: oncogenes & proto-oncogenes
11-11 CH18 Evolution of viruses: Influenza

EXAM IV – Tuesday 11/16

11-18 CH19 HIV and AIDS
11-23 -------- Exotic viral diseases: Ebola, Hanta, SARS
11-30 CH20 Prion diseases
12-2 Student Oral Presentations
12-7 Student Oral Presentations
12-9 Student Oral Presentations

FINAL EXAM – Tuesday 12/14