

IPFW

Fall 2004: Tuesday/Thursday 6:00-7:15 (SB185)

## **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**

Texts: Introduction to Modern Virology - Dimmock, N.J., Easton, A.J., and Leppard, K.N., 5<sup>th</sup> edition 2001.

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**

<u>Text Assignment</u>	<u>Lecture Topic</u>
8-24 CH1 CH2	Definition of a virus Methods of study
8-26 CH3	Viral structure
8-31 CH4	Viral nucleic acids
9-2 CH5	Viral attachment and entry into the host cell
9-7 CH6	Replication of viral DNA
9-9 CH7	RNA viruses: Synthesis of genomic RNA

**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**