Virology - 21712 - BIOL 1560 - S02
(Fall 2013) 3pm – 6pm
COURSE SYLLABUS

Instructor:
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Other sources:


Course Description: The emphasis of this course will be on understanding the molecular mechanisms of viral pathogenesis. It will begin with a general introduction to the field of virology and then focus on the biology of specific viruses that are associated with human disease. Lectures will be based on the current literature; the text will serve as background material.

Grading:
- Midterm exam (10/16/13) covers lectures 1-6 and is worth 100 points.
- Final exam (12/18/13): covers primarily lectures 6-12 but includes some material from the first part of the course (150 points).
- Online problem sets: These will be based on the assigned primary papers. There are a total of 10 and they are worth 10 points each.
Lecture Schedule

Lecture 1:  
Introduction, History and Methods  
Composition, Structure and Classification  
Sep 4, 2013:  GRO-Main Campus-Bldg 200-2000D  
Chapters 1 and 2  


Lecture 2:  
Replication, Attachment and Entry  
Genome Replication and Expression  
Sep 11, 2013:  GRO-Main Campus-Bldg 200-Rotunda A  


Lecture 3:  
Pathogenesis and Immunity – Dr. Bungiro  
Chapter 10  
Sep 18, 2013:  GRO-Main Campus-Bldg 200-2000C (VC HD)


Lecture 4:  
Antiviral Chemotherapy and Vaccines – Dr. Bungiro  
Chapter 10  
Sep 25, 2013:  GRO-Main Campus-Bldg 200-Rotunda B(VCHD)


Zielinska, R.J. et al., 2012. Smallpox vaccine with integrated IL-15 Demonstrates enhanced in vivo viral clearance in immunodeficient mice


**Lecture 5:** *Picornaviridae, Caliciviridae and Coronaviridae*

10/2

Oct 2, 2013: GRO-Main Campus- Bldg 200-2000D


**Lecture 6:** *Flaviviridae, Togaviridae, Rhabdoviridae and Paramyxoviridae*

10/9

Oct 9, 2013: GRO-Main Campus- Bldg 200-2000D


**Lecture 7:** *Reoviridae, Bunyaviridae and Arenaviridae*

10/16

Chapter 4 and 5 *Midterm Exam (lectures 1-6)*

Oct 16, 2013: GRO-Main Campus- Bldg 200-2000D


**Lecture 8:** *Orthomyxoviridae*

10/23  
Chapter 4  
Oct 23, 2013: GRO-Main Campus-Bldg 200-Rotunda A


**Lecture 9:** *Papillomaviridae and Polyomaviridae - Walter Atwood*

10/30  
Chapter 7  
Oct 30, 2013: GRO-Main Campus- Bldg 200-2000D


**Lecture 10:** *Parvoviridae, Adenoviridae and Herpesviridae – Dr. Thais P. Mather*

11/6  
Chapter 7  
Nov 6, 2013: GRO-Main Campus- Bldg 200-2000D


Lecture 11: Retroviridae
11/13
Nov 13, 2013: GRO-Main Campus- Bldg 200-2000D


Cooper, A. et al., 2013. HIV-1 causes CD4 cell death through DNA-dependent protein kinase during viral integration. Nature online June 5.

Lecture 12 Poxviridae and viral vectors
11/20
Chapter 7 and 11
Nov 20, 2013: GRO-Main Campus-Bldg 200-Rotunda A


11/27: No Lecture (Thanksgiving)

Lecture 13 Hepadnaviridae and Hepatitis viruses Dr. Andrew Campbell
12/4
Dec 4, 2013: GRO-Main Campus- Bldg 200-2000D

Chapter 6

Nucleotide Polymerase Inhibitor Sofosbuvir plus Ribiviran for Hepatitis C. New Engl. J. Med 368: 34-44

12/11: REVIEW SESSION
Dec 11, 2013: GRO-Main Campus- Bldg 200-2000D
Guest Lecturers:

Walter Atwood, Ph.D., Professor of Medical Science, Vice Chair MCB Department
Brown University

Richard Bungiro, Ph.D., Lecturer in Microbiology, Brown University

Andrew Campbell, Ph.D., Professor of Medical Science, Brown University

Thais P. Mather, Ph.D., Associate Director of Preclinical Curriculum, Alpert
Medical School of Brown University