**Instructor**  
Dr. Kathryn Hanley  
Office: Foster 471  
Phone: 646-4583  
E-mail: khanley@nmsu.edu

**Meetings**  
MWF 10:30-11:20, Business Complex 106

**Office Hours**  
Friday 1-2:30 or by appointment; Foster 479

**Messages**  
Official course communication to you will often come through your Blackboard e-mail box. Please access it regularly.

**Text**  
The required text is *Principles of Virology* (third edition; 2 volumes) by S.J. Flint, L.W. Enquist, V.R. Racaniello, and A.M. Skalka, which is available from the NMSU bookstore. Readings from the book will be supplemented with papers from the primary and secondary literature, which will be made available on the class website through Blackboard. I strongly encourage you to complete the reading assigned to each class prior to that class.

**Webpage**  
The course web page is available in Blackboard. General course information, supplementary readings, lecture notes, and exam keys will be posted on this site. Note that lecture notes posted on Blackboard will contain substantial omissions of actual material presented in class, thus downloading the notes is not a substitute for attending lecture.

**Overview**  
The diversity of viruses exceeds that of all other living organisms, combined. This course will introduce students to virus genome organization and composition, transmission cycles and epidemiology, mechanisms of infection and replication, as well as strategies to prevent or treat virus infections.

Virus families that infect animals will be discussed, with a focus on virus species of medical relevance. Bacteriophage and prions will be addressed briefly; viruses of plants are covered in EPWS 451/551 and will not be considered here.
<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
<th>Readings*</th>
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</thead>
<tbody>
<tr>
<td>1/15</td>
<td>F</td>
<td>Class Overview &amp; History of Virology</td>
<td>Syllabus</td>
</tr>
<tr>
<td>1/18</td>
<td>M</td>
<td><strong>Martin Luther King Day: No Class</strong></td>
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<tr>
<td>1/20</td>
<td>W</td>
<td>Foundations</td>
<td>Flint I.1</td>
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<td>1/22</td>
<td>F</td>
<td>Infectious Cycle &amp; Methods.1</td>
<td>Flint I.2</td>
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<td>1/25</td>
<td>M</td>
<td>Infectious Cycle &amp; Methods.2</td>
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* **Molecular Virology**

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<tbody>
<tr>
<td>1/27</td>
<td>W</td>
<td>Genomes.1</td>
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<td>1/29</td>
<td>F</td>
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<td>2/1</td>
<td>M</td>
<td>Evolution.1</td>
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<tr>
<td>2/3</td>
<td>W</td>
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<tr>
<td>2/5</td>
<td>F</td>
<td>Attachment and Entry</td>
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<td>2/8</td>
<td>M</td>
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<td>Flint I.6 (omit boxes)</td>
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<td>2/10</td>
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<td>Replication. DNA viruses</td>
<td>Flint I.9 (omit boxes)</td>
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<td>2/12</td>
<td>F</td>
<td>Translation.1</td>
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<td>2/17</td>
<td>W</td>
<td>Review</td>
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<tr>
<td>2/19</td>
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<td><strong>Exam I</strong></td>
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**Host Antiviral Immunity**

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<td>Intrinsic Host Defenses I RNA interference</td>
<td>Haasnoot et al. 2007</td>
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<td>2/24</td>
<td>W</td>
<td>Intrinsic Host Defenses. 2</td>
<td>Flint II.3 pgs 55-77</td>
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<td>2/26</td>
<td>F</td>
<td>Immune Defenses. 1</td>
<td>Flint II. 4</td>
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<td>3/1</td>
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**RNA Viruses**

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<tr>
<td>3/3</td>
<td>W</td>
<td>Orthomyxoviridae. 1 Seasonal Influenza</td>
<td>Baigent &amp; McCauley 2003</td>
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<tr>
<td>3/5</td>
<td>F</td>
<td>Orthomyxoviridae. 2 Pandemic Influenza</td>
<td>Webby &amp; Webster 2001</td>
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<td>3/8</td>
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<td>Orthomyxoviridae. 3 H1N1 swine flu</td>
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**Last day to drop class with a W is 3/9**

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<td>3/12</td>
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<td>Arboviruses</td>
<td>Weaver &amp; Reisen 2010</td>
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<td>3/22</td>
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**Prions**

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<td>3/31</td>
<td>W</td>
<td>Prions.2</td>
<td>Aguzzi &amp; Callela 2009 pgs 1105-1127</td>
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<th>Topic</th>
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<td>4/2</td>
<td>F</td>
<td>Spring Holiday: No Class</td>
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RNA viruses (Resumed)

4/5   M   Picornaviridae. 1   Whitton et al. 2005

4/7   W   Picornaviridae. 2

Viruses and Cancer

4/9   F   Viral Oncogenesis. 1   Flint II.7 pgs 201-240
** Homework I assigned **

4/12  M   Viral Oncogenesis. 2

4/14  W   Viral Oncolyis   Russell & Peng 2009

Other DNA viruses

4/16  F   Poxviruses & Herpesviruses

4/19  M   Exam III

Retroviruses

4/21  W   Retroviruses. 1   Flint II.6
HIV molecular biology & epidemiology

4/23  F   Retroviruses. 2   Heeney et al. 2006
Origins and evolution of HIV

4/26  M   Retroviruses. 3   Stoye 2009
Natural resistance to HIV; Dupressoir et al. 2009
Retroviruses & Host genome evolution

4/28  W   Retroviruses. 4   Barouch 2008
AIDS vaccines & antivirals
** Homework I due **

4/30  F   Review

5/3   M   FINAL EXAM: 10:30-12:30

* For textbook (Flint) readings, Roman numerals refer to volume (I or II) and Arabic numerals refer to the chapter within the volume. Other readings are posted on Blackboard and a complete bibliography is listed at the end of the syllabus.
Evaluation

Final grades will be based on the following exercises/exams:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Points/Percent of grade</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
<td>1</td>
<td>5%</td>
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<tr>
<td>Midterm exams</td>
<td>3</td>
<td>45% (15% each)</td>
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<tr>
<td>Final exam</td>
<td>1</td>
<td>25% (cumulative &amp; mandatory)</td>
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Missed Exercises/Exams

Students are expected to complete all exercises/exams as scheduled; Exercises/exams will be rescheduled only for university business or grave emergencies. The former must documented a MINIMUM OF TWO WEEKS IN ADVANCE and alternative arrangements scheduled with me. The latter must be formally documented, for example with a letter from a physician or funeral home.

Extra Credit

Three optional, graded, in-class extra credit exercises, worth 10 points each, will be offered. These will NOT be announced prior to the class. The best two grades will be added to the total point score as extra credit. Since only the best two grades will be used, no make-ups will be offered under any circumstances.

Academic Honor

I expect each student to submit his or her own original work in every exercise and exam. Evidence of cheating will result in failure of the specific exercise or the entire class, at the instructor’s discretion.

Every student is required to read in its entirety the definition of plagiarism presented by Indiana University at http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml. Intentional or unintentional plagiarism will result in failure of the exercise, and if the plagiarism is extensive will result in failure of the class. If a student is unsure whether he or she is being academically dishonest, then he or she should ask me for clarification (in person or via email) prior to completing the exercise.

Withdrawals:

It is the responsibility of the student to complete the necessary paperwork to withdraw from the class should they decide to do so.

Attendance:

Lecture attendance is expected except for documented university business or extreme emergencies, and regular participation will greatly improve your success in the course. It is the responsibility of the student to be aware of material or schedule changes presented in any class that he or she has missed.
Changes to the syllabus:
I reserve the right to modify the syllabus as needed to appropriately address the material. Changes will be announced in class and posted on Blackboard. It is the responsibility of the student to be aware of material or schedule changes presented in any class that he or she has missed.

Disabilities & Accomodations
If you have or believe you have a disability and would benefit from accommodations, you may wish to self-identify by contacting the Services for Students with Disabilities (SSD) Office located in the Garcia Annex (Phone 646-6840; TTY 646-1918; http://www.nmsu.edu/~ssd/). No students will be given accommodations for disabilities unless SSD has requested them. If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss any concerns with the instructor and/or Mr. Michael Armendariz, SSD coordinator. Feel free to call Ms. Angela Velasco at 646-3333 with any questions about the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act of 1973. All medical information will be treated confidentially.
Supplemental Readings