

**BIOL 830 – Advanced Virology**  
Fall 2005 - **Emerging Viruses & Virus Evolution**  
Ackert 324B  
Tuesdays and Thursdays 2:00 – 3:30 p.m.

**Instructor:**

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Appointments are preferred but walk-ins are welcomed.

**Website:**

Class materials will be posted on the K-State Online website (<http://public.online.ksu.edu>). Links to general virology, infectious diseases, and current news related to viruses are available on the K-State Online site. Check the website often for important information and messages.

**Course format:**

Each semester that the class is taught a topic in virology will be chosen depending on current research developments and world health. This semester we will be discussing emerging viruses and virus evolution.

The course will include both lectures and discussions. The majority of the course will be based on in-depth readings and discussions of current topics in virology (*e.g.*, emerging viruses) and the impact of viruses in today's society with emphasis on recent research literature. Classes will be supplemented with lectures that will provide an introduction to the specific virus being discussed (structure, molecular biology, pathogenesis, epidemiology, and/or disease treatment and prevention) to set a framework to stimulate discussions.

**Course objectives:**

- To provide awareness of health, economic, social, and environmental problems associated with viral infections in the present time.
- To increase understanding of virological techniques used in research.
- To stimulate thoughtful discussions emanating from the issues mentioned above and an interest in viruses.

**Grading:**

Grading will be based on oral presentations (25%), participation in class discussions (25%), and two exams: mid-term (25%) and final exam (25%).

## Syllabus:

- August
- Tu 23 Course introduction; Emerging viruses and virus evolution
  - Th 25 Virus classification, structure, and molecular biology
  - Tu 30 Pathogenesis of viral infections & host defense
- September
- Th 1 Epidemiology & prevention and control of viral diseases
  - Tu 6 Human immunodeficiency virus & Human T-cell leukemia virus (Retroviridae)
  - Th 8 Discussion
  - Tu 13 Discussion
  - Th 15 Discussion
  - Tu 20 Discussion
  - Th 22 Discussion
  - Tu 27 Influenza virus (Orthomyxoviridae)
  - Th 29 Discussion
- October
- Tu 4 Discussion
  - Th 6 Discussion
  - Tu 11 Monkeypox virus (Poxviridae)
  - Th 13 Discussion / **Mid-term exam**
  - Tu 18 West Nile & Dengue viruses (Flaviviridae)
  - Th 20 Discussion
  - Tu 25 Discussion
  - Th 27 Ebola & Marburg (Filoviridae)
- November
- Tu 1 Discussion
  - Th 3 Hantaan, Sin Nombre, & Rift Valley fever viruses (Bunyaviridae)
  - Tu 8 Discussion
  - Th 10 Foot-and-mouth disease virus (Picornaviridae)
  - Tu 15 Discussion
  - Th 17 Machupo and Junin viruses (Arenaviridae)
  - Tu 22 Discussion
  - Th 24 University Holiday
  - Tu 29 Severe acute respiratory syndrome virus (Coronaviridae)
- December
- Th 1 Discussion
  - Tu 6 Prions
  - Th 8 Discussion -- Hand out take-home final exam
- T 13 Final exam due by 11:30 a.m.**

*Any student with a disability who needs an accommodation or other assistance with this course should make an appointment to speak with the instructor as soon as possible. It is expected that you do all academic work in this class individually. Do not collaborate on any academic work unless specifically approved by your instructor. On all assignments, examinations, or other course work, the following pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." For more information, please visit the Honor System web page at <http://www.ksu.edu/Honor>.*