

Notice of graduate elective course

MBIO 671

Epidemiology & Pathogenesis of Human Viruses

Instructor: Dr. Larry Hunt

lahunt01@louisville.edu 852-5361

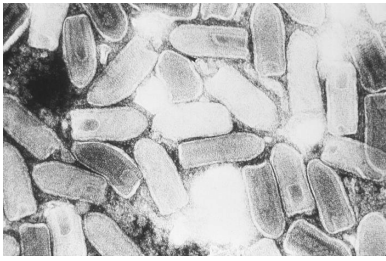
1 credit hour, 3rd quarter 2009-2010

1:00-2:50 PM, Tues., Rm B-107 Health Sciences Center

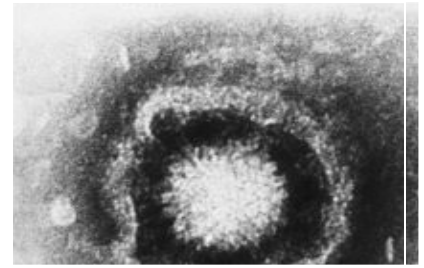
Lectures: Jan. 12 - Feb. 16, 2010 (exam Feb. 23)

Besides providing a background in human viruses of clinical importance for those primarily interested in virology, his course is worthwhile for graduate students whose primary interests are in immunology because of the importance of immunology in viral pathogenesis, and also worthwhile for those whose research is in bacteriology in providing information about infectious diseases. Viral epidemiology deals with how viruses are transmitted from human-to-human or from animal vectors, as well as peak seasonal and geographical incidences. Viral pathogenesis deals with diseases and clinical symptoms of viral infection, as well as the effect of immunization and antiviral drugs. Prerequisite: MBIO 602 (Intro. Immun.), or consent of instructor. A **final exam** with short-written-answer format on **Feb. 23** will count for 70% of the grade and 30% will be based upon three short written reports on clinical virology articles in CDC's *MMWR*. "Hunt's Human Virology" handouts used for the medical microbiology course (available from HSC CopyIT) will be background reading, and handouts will also be provided for powerpoint lectures. ***This one credit course can be combined with MBIO 672 (1 credit, same hours/day in second half of semester to satisfy requirement for a 2 credit graduate elective.*** Lecture topics will be primarily based upon viral syndrome/organ system rather than family of virus:

- viral structure & classification
- virus replication, antiviral drugs, cell culture & diagnostic assays
- viral vaccines and passive immunization to prevent viral disease
- respiratory tract infections, including human influenza epidemics & pandemics
- gastrointestinal tract infections with viruses (diarrhea & vomiting)
- viral lesions of the skin (exanthems) and mucosa (enantheams)
- viral infections of the central nervous system (viral meningitis, encephalitis)
- human immunodeficiency virus (HIV) and AIDS
- sexually transmitted viral infections other than HIV
- congenital & perinatal infections with human viruses
- acute & chronic viral hepatitis
- arboviral infections of humans
- non-arboviral zoonotic infections, including hemorrhagic fevers



rabies virus (L) and
herpes simplex virus
(R) (CDC photographs)



MBIO 671 EPIDEMIOLOGY AND PATHOGENESIS OF HUMAN VIRUSES
Tuesdays, 1:00 – 2:50 pm, Jan. 12 - Feb. 23, 2010 Rm B-107 HSC (1 credit hr)

- Jan. 12 Human virus structure and replication
 Antiviral drugs, cell culture and diagnostic assays
- Jan. 19 Viral vaccines and passive immunization to prevent viral disease
 Respiratory tract infections (other than influenza)
- Jan. 26 Human influenza: viruses, vaccines & antiviral therapy
 Gastrointestinal tract infections with human viruses (diarrhea &
 vomiting) (first MMWR report due = 10%)
- Feb. 3 Viral lesions of the skin (exanthems) and mucosa (enanthems)
 Viral infections of the CNS (viral meningitis, encephalitis)
- Feb. 9 Human immunodeficiency virus (HIV) and AIDS
 Acute and chronic viral hepatitis (second MMWR report due = 10%)
- Self-study* Sexually transmitted viral infections other than HIV
 Congenital & perinatal infections
- Feb. 16 Arboviral infections of humans including West Nile, yellow fever, dengue
 Non-arboviral zoonotic infections, including hemorrhagic fevers
- Feb. 23 Final Exam (70%) (third MMWR report due = 10%)

Instructor: Dr. Larry Hunt (852-5361; lahunt01@louisville.edu)

Prerequisite: MBIO 602 (Intro. Immun.) or consent of instructor.

Text book and handouts: There will be no required textbook, but the handouts used for the virology section of the medical microbiology course (available at cost in HSC CopyIT) will be background reading. B&W handouts will be provided for the powerpoint lectures for those registered for credit or audit, and powerpoint lectures will also be available on BLACKBOARD in “breeze” format.

Grading: A final exam with short-written answer format on Feb. 23 will count for 70% of the grade, and the other 30% will be based upon three short reports (1 page form) on recent clinical virology articles from CDC MMWR website. Plus/minus letter grading will be utilized. No tests/reports are required for those registered as AUDIT.