



**BIOLOGY 296 - HIV/AIDS****Spring 2006**

Instructor: Dr. Karen Kurvink  
 323 Collier Hall of Science  
 Telephone - 610-861-1428

Class time: MWF 6a (2:20-3:30)  
 Room 202 Collier Hall of Science

Course Description: HIV/AIDS is a community-involvement course which addresses the many dimensions of the disease and its impact on the individual, family, community, and world. HIV/AIDS is a disease which has challenged scientific research and the medical and industrial establishment in terms of diagnosis, treatment, prevention and potential cure. It is a disease which has reached all global populations and has resulted in international attention and concern as well as generating political reactions. For the individual infected and the associated family, there are an array of medical, psychological and sociological implications. Guests who are specialists in specific aspects of HIV/AIDS will help make the class more "real world" and serve as resources for information. Students will be requested to lead two class discussions (activities) and to be interactive for the rest. In addition to the presentations, a midterm and final exam, reflective portfolio, and individual research project will comprise the student's grade. The course meets the LinC U1 requirement.

Texts: AIDS UPDATE - 2005 by Gerald J. Stine  
 A WOMAN'S GUIDE TO LIVING WITH HIV INFECTION by Rebecca Clark, Robert T. Maupin, and Jill Hayes Hammer, 2004

*"A sense of crisis is hard to sustain. It thrives on earthquakes and tornadoes, plane crashes and terrorist bombings. But forces that kill people one at a time have a way of fading into the psychic landscape." Newsweek June 25, 1990*

**Tentative Schedule**Week 1

Monday January 16	Course overview AIDS statistics Historical review  <i>Celebrities with HIV/AIDS - Assignment</i>	Chapter 1 (Stine)
Wednesday January 18	HIV and associated viruses Origin of HIV endemic animal populations polio vaccine Discovery of the virus HIV genetic modifications over time -drug resistant  <i>AIDS hotlines Duesberg phenomenon</i>	Chapter 2 (Stine)
Friday January 20	AIDs and immune system	Chapter 5 (Stine) Chapter 3 (Clark)

*AIDs organizations and important web sites*  
*AIDs definition*  
*Walter Reed Classification*

Week 2

Monday January 23

Clinical aspects of HIV/AIDS infection (#1) Chapter 7 (Stine)  
Chapter 4 (Clark)  
Various definitions of AIDS  
Traditional stages of progression (without treatment)  
Initial biological effects  
AIDS-related complex (ARC)  
AIDS  
Few individuals who are non-progressors  
possible implicated genetic difference  
CDC Stages of the disease  
Walter Reed classification  
Association with other STDs

*Worlds AIDS Day - December 1st*  
*Red Ribbon symbol*

Wednesday January 25

Opportunistic infections (#2) Chapter 6 (Stine)  
Variation in different populations  
homosexual  
male/female  
Kaposi's sarcoma  
Treatment of the opportunistic infections  
HIV Wasting syndrome (Slim disease)  
AIDS-dementia complex

*HIV daily events calendar (Kaisernetwork)*  
*Recent news articles*

Friday January 27

**Guest speaker**

Monday January 30

Transmission (#3) Chapter 7 (Stine)  
Chapter 7 (Clark)  
Main pathways of infection  
Stability of the virus  
Related to sexual behavior  
Ways in which HIV + has a low probably of  
transmission

Special concerns for health care professionals

*AIDS organizations*  
*HIV infection and sports*

Wednesday February 1

Epidemiology (#4) Chapter 7 & 10 (Stine)  
AIDS in specific populations (African American)

Hispanics, Gays, Drug addicts, college students, teenagers, children, etc)

*AIDS in Tarahumarian Indians.*

Friday February 3

**Guest speaker -**

Week 4

Monday February 6

Treatment (#5)

Chapter 4 (Stine)  
Chapter 6 (Clark)

Antiretroviral drugs - types and mechanism of action  
nonnucleoside analogs  
protease inhibitors  
fusion inhibitors  
entry inhibitors  
others

Indicators of treatment success

Viral load tests

CD4: CD8 lymphocyte ratios

Alternative treatment therapies

Bone marrow transplants

Gene therapy

Timing of treatment

Cost of treatment

Side effects of treatment

Wednesday February 8

Prevention (#6)

Chapter 9 (Stine)

Safe sex practices

Injection drug users

Universal precautions

Health care workers

Autopsy and embalming

Police, Fire and emergency personnel

Condoms and the catholic church

What to do after potential HIV exposure

Decontamination procedures.

*Microbicidal creams*

*Consequence of HIV/AIDS on biology education*

*Latex gloves*

Friday February 10

**Guest speaker:**

Week 5

Monday February 13

Testing and diagnosis (#7) Chapter 12 (Stine)

Main antibody tests Chapter 1 (Clark)

ELISA

Western blotting

Home and simplified tests

Sophisticated tests - viral load tests  
gene probes  
polymerase chain reaction  
Implications of testing  
Problem areas-false positives and negatives

*Ethics related to testing specific populations*

Wednesday February 15 Confidentiality and Contact Tracing (#8)  
Voluntary testing  
Mandatory testing  
Associated counseling

*Good and bad aspects of **name** reporting*

Friday February 17 **Guest speaker:**

Week 6

Monday February 20 **MIDTERM EXAM**

Wednesday February 22 HIV/AIDS in homosexual population (#9)  
History (past and present issues)  
Unique clinical features  
Safe sex practices

*German Gays and Increased infection rates  
AIDS in Prison populations*

Friday February HIV and blood testing (#10)  
in US  
in other parts of the world

Hemophilia  
Ryan White story

*AIDs Quilt* Preface (Stine)

Week 7

Monday February 27 Personal dimensions of HIV/AIDS (#11)  
Chapter 16 - 18 (Clark)

Living with HIV/AIDS  
past  
present

Hospice care  
Home care  
Family and friends support  
Organizational support groups and services  
Counseling

Wednesday March 1 Specific concerns related HIV infection in women(#12)  
AIDS and pregnancy Chapter 11 (Stine)  
Pediatric AIDS Chapter 10-12(Clark)

	Treatment of mother of baby Comparison of medical practices in developed versus developing countries  <i>ARTs for HIV discordant individuals</i>
Friday March 3	<b>Guest speaker:</b>
<u>Week 8</u>	
Monday March 13	Vaccine development (#13) Types of strategies Problems in vaccine development Vaccine clinical trials Lack of animal models  Research and clinical trials Chapter 19 (Clark)  <i>Global Fund to Fight AIDS, Tuberculosis, and Malaria</i>
Wednesday March 15	AIDS education (#14) Chapter 13 (Stine) Strategies for various levels in schools: Elementary school Middle school High school College Strategies of specific populations Strategies for general population  <i>Ryan White CARE Act</i>
Friday March 17	<b>Guest speaker:</b>
<u>Week 9</u>	
Monday March 20	AIDS in Africa (#15) Statistics Special problems AIDS associated orphans
Wednesday March 22	AIDS in Asia (#16) AIDS in another country (select one or two additional countries) <i>Asian sex industry</i>
Friday March 24	<b>Guest speaker:</b>
<u>Week 10</u>	
Monday March 27	Psychological aspect of HIV/AIDS (#17)

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Week 13

Wednesday April 19

Economic implications of HIV/AIDS (#22) Chapter 13  
(Stine)

Costs of long term disease treatment  
Loss of productive society members  
Sharing of responsibility for costs of treatment  
Policy makers and funding  
Agencies: UNAIDS, UNDP, World Bank  
Private financial donors  
Bill and Melinda Gate, Bono  
Pharmaceutical companies-drug pricing

*Tsunami relief effort and HIV/AIDS*

*Example of efforts of special groups to help  
HIV+ children*

Friday April 21

**Guest speaker:**

Week 14

Monday April 24

Political issues of HIV/AIDS (#23)  
Within United States - Republican and Democrat  
policies  
Gag rule - effect on safe sex  
President's Emergency Plan for AIDS Relief  
Globally  
UN Global Fund to Fight AIDS, Tuberculosis and  
Malaria (2002)  
Screening travelers and immigrants

*HIV/AIDS Conferences*

Preface (Stein)

Wednesday April 26

Sharing of independent projects

Friday April 28

**Guest speaker:**

**FINAL EXAM** - during final exam week

*"The epidemic of HIV infection and AIDS has affected contemporary society profoundly, touching everyone in the world in some way. It has compelled individuals to make new judgments or has reinforced old outlooks on many practices, while stimulating many debates and bringing the positive side of the human spirit into the fore." I. Edward Alcamo*



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	-individual -family Strategies for dealing with a serious disease -nutrition -positive attitude
Wednesday March 29	HIV stigma issues (insurance, jobs, medical care) (#18) insurance medical care Other social issues housing jobs dating Value of support groups Networking for community support
Friday March 31	<b>Guest speaker:</b>
<u>Week 11</u>	
Monday April 3	<b>Video:</b> AIDS in the Lehigh Valley
Wednesday April 5	Special HIV concerns associated with aging (#19) Considerations: immune system, nutrition, addiction, safe sex over 50, prescription drugs, loneliness, other diseases  <i>Aging conferences</i>
Friday April 7	<b>Guest speaker:</b>
<u>Week 12</u>	
Monday April 10	Legal Aspects of HIV/AIDS (#20)  Laws which protect a PLWAs from discrimination Privacy and confidentiality Reporting Mandatory screening - inmates, military, immigrants State regulation of public places such as bathhouses and adult bookstores Protection of blood supply
Wednesday April 12	Social effects of HIV/AIDS (#21) View of safety of medical care HIV concerns among health care professional Historical Current AIDS in workplace - AIDS specific policies, guidelines  <i>Example of dental infection</i>

