

**FALL 2005**

**BIOL-3350: Biological Basis of Health and Disease, 3 Credit Hrs.**

**SYLLABUS**

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Class Meetings: Sec 001-TR, 3.30-4.45 PM; CN 1.102

Sec 501-MW, 5.30-6.45 PM; CN 1.120

**General Information:**

This course is designed as a science elective open to all majors.

The main goal of the course is to make the students aware of the fundamentals of pathophysiology, which focuses on the mechanisms of disease. These mechanisms are “the dynamic processes that (1) cause disease, (2) give rise to signs and symptoms, and (3) signify the body’s attempt to overcome disease” (M.Hansen, 1998).

The content of the course is chosen to cover conditions, which may affect dramatically the life of an individual and society in the modern age.

Special emphasis will be given to preventative aspects for each disease based on non-drug, wellness-promoting approaches.

#### Course Textbook:

Pathophysiology. Concepts of Altered Health States, by Carol Mattson Porth; Sixth Edition (ISBN 0-7817-2881-9), Seventh Edition (ISBN 0-7817-4988-3).

#### Curriculum:

The course material is divided into five units. Each unit is based on a conceptual and/or a systemic principle and comprises selected material from a set of chapters in the textbook (see the “Topics and the Exams Schedule” below).

#### Attendance:

Regular attendance is encouraged to the utmost. Five percents of the Final Grade will come from the Grade for the Attendance.

#### Exams and Grading:

A Unit Exam will follow the completion of each unit. The Final Exam will be a comprehensive test, based on selected chapters covered during the semester. The particular chapters will be announced not later than four weeks before the Final Exam.

Taking all of the Unit Exams is **mandatory**. For students who take all five Unit Exams, the one lowest Unit Exam grade (only if it is no less than 59%) will be dropped. For students who **do not take all five Unit Exams or whose lowest scores lower than 59% , no grades will be dropped.**

The Final Grade will be based on your resultant Unit Exam average plus the Final and will be calculated as follows:

- 70% from the average of the Unit Exams
- 25% from the result of the Final Exam
- 5% from the grade for the Attendance.

**There are no retakes. Make-up exams will be given only in a case of a documented excuse.**

The final letter grades will be assigned in accord with the following numerical scale:

97-100	A+
92-96	A
89-91	A-
85-88	B+
82-84	B
79-81	B-
75-78	C+
72-74	C

65-68	D+
62-64	D
59-61	D-
<59	F

Topics and Exams Schedule:

We will cover selected parts of the material in each of the Chapters (7-th Edition), indicated below, for each Unit. The specifically required pages for the study will be given to students at the beginning of the corresponding Unit.

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The weeks of August 21, 28, September 4 Unit 1: The Introduction to the course. Mechanisms of Infectious Disease. Immunity and Inflammation. Alterations in the Immune Response. Acquired Immunodeficiency Syndrome-AIDS.

Chapters 18, 19, 20, 21, 22.

**Unit Exam #1 (Chapters 18, 19, 20, 21, 22)**

**Sec 001- September 15**

**Sec 501- September 14**

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The weeks of September 11, 18, 25 -Unit 2

Alterations in Structure and Function of the Female and Male Reproductive Systems. Sexually Transmitted Diseases.

Chapters 44, 45, 46, 47, 48.

**Unit Exam #2 (Chapters 44, 45, 46, 47, 48)**

**Sec 001- October 6**

**Sec 501-October 5**

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The weeks of October 2, 9, 16-Unit 3

Alterations in Blood Flow in the Systemic Circulation

Alterations in Blood Pressure: Hypertension & Orthostatic Hypotension

Alterations in Cardiac Function. Atherosclerosis.

Coronary Heart Disease. Heart Failure and Circulatory Shock.

Chapters 23, 24, 25, 26, 27, 28.

**Unit Exam #3 (Chapters 23, 24, 25, 26, 27, 28)**

**Sec 001- October 27**

**Sec 501- October 26**

The weeks of October 23, 30- Unit 4

Alterations in Respiratory Function

Respiratory Tract Infections, Childhood Disorders.

Alterations in Ventilation and Gas Exchange.

Obstructive Airway Disorders. Bronchial Asthma.

Impaired Gas Exchange and Respiratory Failure

**Unit Exam #4 (Chapters 29, 30, 31)**  
**Sec 001- November 10**  
**Sec 501-November 9**

The weeks of November 6, 13, 20-Unit 5

Alterations in Renal Function. Urinary Tract Infections.  
Disorders of Glomerular Function. Renal Failure.  
Alterations in Urine Elimination  
Chapters 32, 35, 36, 37.

**Unit Exam # 5(Chapters 32, 35, 36, 37)**  
**Sec 001-November 22**  
**Sec 501-November 23**

**FINAL EXAM**  
**Sec 001-December 1, Thursday, 2 PM**  
**Sec 501-November 30, Wednesday, 5 PM**

Additional Information:

The following are some websites that provide supplemental information on the issues discussed in the “Biological Basis of Health and Disease” course.

<http://www>.

1. [ama-assn.org/](http://ama-assn.org/)  
American Medical Association/JAMA
2. [americanheart.org](http://americanheart.org)  
American Heart Association
3. [cdc.gov/](http://cdc.gov/)  
Centers for disease Control and Prevention
4. [healthfinder.gov](http://healthfinder.gov)  
Government-sponsored mega site
5. [mayohealth.org](http://mayohealth.org)  
Mayo Clinic
6. [ncbi.nlm.nih.gov/Pubmed/fulltext.html](http://ncbi.nlm.nih.gov/Pubmed/fulltext.html)  
Medline online journal links
7. [nih.gov](http://nih.gov)  
National Institutes of Health
8. [pharminfo.com](http://pharminfo.com)  
Pharmaceutical
9. [rxlist](http://rxlist)  
Drugs
10. [sciam.com/](http://sciam.com/)  
Scientific American online