

# *Human Anatomy and Physiology Biology 202*

## *Course Syllabus Spring 2004*

*Dr. Patricia Ashby*

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**Section Numbers:** 3506/3508  
**Meeting Times:** TR 7:30-8:45; 1:30-2:45  
**Location:** LS122/LS129

**Office Hours:** Monday 8:30 - 9:30 Tuesday, Thursday 8:45 – 9:30  
Wednesday 8:30 - 9:30 Friday 11:00 - 12:00

### **Textbooks:**

Human Anatomy and Physiology, 6th Edition; Marieb  
A Photographic Atlas for A & P Lab; Van de Graaff & Crawley (optional)  
McMinn's Color Atlas of Human Anatomy, Abrahams et al. (optional)

### **Course Objectives:**

The goal of this course is to provide students with an essential foundation in the anatomy and physiology of the endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive systems of human beings. This course, along with its companion course BIOL201 and other basic science courses (microbiology, chemistry), will prepare students for advanced work in their chosen fields.

### **Course Requirements:**

Four lecture exams will be given during the semester. The dates of the exams are indicated on the attached schedule. Twelve quizzes will be given in lecture, each worth 10 points. The lowest two will be dropped. Quiz dates are indicated on the attached schedule. In addition, a short paper on a topic of the student's choice will be due on March 2. Details regarding the paper will be provided within the first two weeks of the semester. Three lab practicals will be given during the semester as well as a group project, the dates of which are indicated on the lab schedule. Your grade will be based on the following:

Lecture		
4 Exams (100 pts. each)		400 pts.
10 Quizzes (10 points each)		100 pts.
Paper		25 pts.

	<i>Total for Lecture</i>	<i>525 pts.</i>
Lab		
	3 Lab Practicals (50 pts. each)	150 pts.
	Dissections and lab activities	25 pts.
	Group Presentation	25 pts.
	<i>Total for Lab</i>	<i>200 pts.</i>
	<b><i>TOTAL</i></b>	<b><i>725 pts.</i></b>

Grades will be based on the following points:

A	652 minimum points	(90%)
B	580 minimum points	(80%)
C	507 minimum points	(70%)
D	435 minimum points	(60%)
F	less than 435 points	

Material covered on the exams will come directly from lecture and assigned readings, to be announced in class. It is therefore essential that students attend all lectures and take detailed notes.

Makeup exams will be given for excused absences *only*, such as documented illness, family emergencies, etc. Makeup exams may be of an entirely different format than regular exams.

*Academic dishonesty of any form will not be tolerated. The penalty for cheating on an exam or plagiarizing a paper will be an F for the course.*

### **Attendance Policy:**

You are required to attend class for full credit. An excused absence includes the following circumstances: documented official absence (e.g. school function, with official verification), a religious holiday that I have been notified of prior to the absence, injury, sickness, or loss of relative. All require proper documentation. Any other type of absence, or an absence without documentation, is unexcused.

### **Withdrawal and Incomplete Policy:**

Upon request, the instructor can withdraw a student through the first 10 weeks of the course with a grade of "W". After the 10th week, the instructor can withdraw a student with a grade of "Y" unless the student is passing. Withdrawals will not be issued after the last day for student withdrawals, April 26.

An incomplete (I) will be given to a student who has completed at least 80% of the required coursework, is passing, and is unable to complete the remaining coursework due to illness or other circumstances beyond the student's control. If approved by the instructor, the student and instructor

will complete an Incomplete Contract, which will specify the required work and the deadline for completion (not to exceed 7 months). The student WILL NOT re-register for the class in order to remove the grade of 'I'.

**Student Disabilities:**

The college will make reasonable accommodations for persons with documented disabilities. Students should notify Students Services and their instructors of any special needs.

### **MCCCD Official Course Competencies:**

1. Identify the structure, location, and regulation of the body's various endocrine cells and glands.
2. Describe the functions of the body's various hormones, and cite examples of disorders that result from their imbalance.
3. Describe the structures of the digestive system and how they function in digestion, absorption, and metabolism.
4. Describe the structures and functions of the male and female reproductive systems, including gametogenesis.
5. Describe the various stages of embryonic, fetal, and placental development.
6. Describe changes that occur during pregnancy, parturition, and lactation.
7. Describe the composition and function of blood, including formed elements.
8. Describe the structures and functions of the cardiovascular system.
9. Describe the structures and functions of the lymphatic system as well as the mechanisms of defense and immunity.
10. Describe the structures of the respiratory system and how they accomplish ventilation, respiration, and gas transport.
11. Describe the structure of the urinary system and their involvement in the regulation of fluids, electrolytes, and nutrients.
12. Describe the regulation of water balance and the control and distribution of the ionic components of body fluids.
13. Explain the regulation of acid-base balance in the body and the complications of acidosis and alkalosis.

### **MCCCD Official Course Outline:**

#### **I. Endocrine System**

- A. Location and structure of hormone-producing cells and glands
- B. Mechanisms of hormone control, action, and feedback
- C. Endocrine control of general physiology and integration
- D. Endocrine-related disorders

#### **II. Cardiovascular System**

- A. Blood
  1. Composition
  2. Hemo poiesis
  3. Antigenic and coagulative properties
- B. Heart structure and function
  1. Controls
  2. Monitoring systems
- C. Vascular components
  1. Structures and locations
  2. Fetal, neonatal, and adult pathways
  3. Hemodynamics
- D. Cardiovascular-related disorders

#### **III. Lymphatic System**

- A. Structures and locations
- B. Nonspecific defenses
- C. Mediated responses
  1. Antibody
  2. Cell

D. Immunological related disorders

#### IV. Respiratory System

- A. Structures and locations
- B. Mechanics and control of pulmonary ventilation
- C. Gas exchange and transport
- D. Respiratory-related disorders

#### V. Urinary System

- A. Structures and locations
- B. Urine formation and control
- C. Urinary-related disorders

#### VI. Fluids and Electrolytes

- A. Fluid compartments
- B. Types of electrolytes and their function and control
- C. Homeostatic mechanisms
- D. Responses to acidosis and alkalosis
  - 1. Buffer
  - 2. Respiratory
  - 3. Renal
- E. Fluid-related disorders

#### VII. Digestive System

- A. Structures and locations
- B. Mechanical and chemical digestion
  - 1. Carbohydrates
  - 2. Lipids
  - 3. Proteins
- C. Absorption and transport of nutrients
- D. Digestion-related disorders

#### VIII. Reproductive System

- A. Embryologic and fetal development of reproductive organs
- B. Male and female structure and function
  - 1. Gametogenesis
  - 2. Cycles
  - 3. Hormonal controls and interactions
- C. Pregnancy, prenatal development, parturition, and lactation
- D. Reproduction-related disorders

## Human Anatomy and Physiology II

### BIO 202                  Spring 2004

*Note: Course content may vary from this outline to meet the needs of this particular group*

<i>DATE</i>	<i>TOPIC</i>	<i>READINGS</i>
Jan 20	Endocrine System	pgs. 604-636
Jan 22	Endocrine System	pgs. 604-636
Jan 27*	Blood - Red Blood Cells	pgs. 645-654
Jan 29	Blood – Platelets and White Blood Cells	pgs. 660-667
Feb 3*	Blood – Platelets and White Blood Cells	pgs. 667-676; 787-796
Feb 5	Heart	pgs. 687-696
Feb 10	<b>Exam I</b>	
Feb 12	Heart	pgs. 696-702
Feb 17*	Vascular System and Cardiovascular Disorders	pgs. 712-724
Feb 19	Vascular System and Cardiovascular Disorders	pgs. 724-741
Feb 24*	Lymphatic System	pgs. 772-779; 796-807
Feb 26	Lymphatic System	pgs. 807-823
Mar 2*	Respiratory System <i>Paper Due</i>	pgs. 829-851
Mar 4	Respiratory System	pgs. 852-861
Mar 9	<b>Exam 2</b>	
Mar 11	Respiratory System	pgs. 861-873
<b>Mar 16-18</b>	<b><i>Spring Break</i></b>	
Mar 23*	Digestive System	pgs. 883-897
Mar 25	Digestive System	pgs. 897-920
Mar 30*	Digestive System	pgs. 921-932
Apr 1	Urinary System	pgs. 997-1010
Apr 6*	Urinary System	pgs. 1010-1027
Apr 8	Fluid and Electrolyte Balance	pgs. 1034-1059
Apr 13	<b>Exam 3</b>	
Apr 15	Meiosis and Reproduction	pgs. 1070-1074; 1140-1150
Apr 20*	Male Reproductive System	pgs. 1064-1079
Apr 22	Female Reproductive System	pgs. 1079-1096
Apr 27*	Pregnancy and Fetal Development	pgs. 1110-1119; 1129-1135
Apr 29	Development of Organ Systems	pgs. 1119-1129
May 4*	Senescence and Aging	handout
May 6*	<i>Student Choice Lecture</i>	
<b>May 11</b>	<b>Final Exam 7:30, 11:30</b>	

**\* indicates dates of quizzes**