

**Course Prefix/Number/Title:** BIOL 221 - Anatomy and Physiology II

**Number of Credits:** 4 semester credits

**Course Description:**

A study of the structure (anatomy) and function (physiology) of the human body. The course consists of three one-hour lectures and one two-hour lab each week.

**Pre-requisites:** BIOL 220

**Instructor:** Larry Brooks

**Office:** NSC 111

**Office Hours:** 10-11 am M, W, & F and by appointment

**Phone:** 228-5457

**Email:** [larry.brooks@dakotacollege.edu](mailto:larry.brooks@dakotacollege.edu)

**Lecture Schedule:** 7:45 - 8:35 am MWF in NSC 105

**Lab Schedule:** 10:00 - 11:50 am on Thursday in NSC 128 or by arrangement

**Textbook:** Anatomy and Physiology, Thibodeau and Patton, 6<sup>th</sup> Edition

**Lab Manual:** Anatomy and Physiology Laboratory Manual, K. Patton, 6<sup>th</sup> Edition

**Course Requirements:**

Grading is based on a standard college curve, where students earn a grade based upon the percent of total possible points they obtain. The lecture component of this course consists of approximately 900 points (12 drop quizzes @ 5 points each, 50 points for assignments, 3 lecture exams @ 200 points each, and one final exam @ 200 points). Lecture points are added to laboratory points (about 300 points) to obtain the total points possible for the course (about 1200). (Note: Adjustments may be made to lecture and/or lab points so that the lecture constitutes 3/4 of the total points for the course.) There is a one week grace period to makeup any missed exam. Any missed exam not made up within the allotted time will be given a zero. Makeup exams may be of an essay nature and are usually considered more difficult. Make-ups are not allowed on drop quizzes, however, the lowest two quiz scores will be dropped. Final letter grades are assigned based on the following criteria:

- A = 89.5-100% of the total points
- B = 79.5 - <89.5% of the total points
- C = 69.5 - <79.5% of the total points
- D = 59.5 - <69.5% of the total points
- F = <59.5% of the total points

**Tentative Lecture Outline:**

<u>DATE</u>	<u>TOPIC</u>	<u>READING</u>
1-12	Introduction and Blood	Chpt. 17
1-14	Blood	Chpt. 17
1-17	NO CLASS - MARTIN LUTHER KING DAY	
1-19	Anatomy of the Cardiovascular System	Chpt. 18
1-21	Anatomy of the Cardiovascular System	Chpt. 18
1-24	Physiology of the Cardiovascular System	Chpt. 19
1-26	Physiology of the Cardiovascular System	Chpt. 19
1-28	Lymphatic System	Chpt. 20
1-31	Immunity	Chpt. 21
2-2	Immunity	Chpt. 21
2-4	TEST I	
2-7	Stress	Chpt. 22
2-9	Anatomy of the Respiratory System	Chpt. 23
2-11	Anatomy of the Respiratory System	Chpt. 23
2-14	Physiology of the Respiratory System	Chpt. 24
2-16	Physiology of the Respiratory System	Chpt. 24
2-18	Anatomy of the Digestive System	Chpt. 25
2-21	NO CLASS - PRESIDENTS DAY	
2-23	Anatomy of the Digestive System	Chpt. 25
2-25	Physiology of the Digestive System	Chpt. 26
2-28	Physiology of the Digestive System	Chpt. 26
3-2	Nutrition and Metabolism	Chpt. 27
3-4	Nutrition and Metabolism	Chpt. 27
3-7	Nutrition and Metabolism	Chpt. 27
3-9	Nutrition and Metabolism	Chpt. 27
3-11	TEST II	
3-14 to 3-18	SPRING BREAK - NO CLASSES	
3-21	Urinary System	Chpt. 28
3-23	Urinary System	Chpt. 28
3-25	Fluid and Electrolyte Balance	Chpt. 29
3-28	Acid-Base Balance	Chpt. 30
3-30	Male Reproductive System	Chpt. 31
4-1	Male Reproductive System	Chpt. 31
4-4	Female Reproductive System	Chpt. 32
4-6	Female Reproductive System	Chpt. 32
4-11	Birth Control	Chpt. 32
4-13	Sexual Transmitted Diseases	Chpt. 32
4-15	TEST III	
4-18	Growth and Development	Chpt. 33
4-20	NO CLASS - EARTH DAY	
4-22	NO CLASS - GOOD FRIDAY	
4-25	NO CLASS - EASTER MONDAY	

4-27	Growth and Development	Chpt. 33
4-29	Growth and Development	Chpt. 33
5-2	Genetics	Chpt. 34
5-4	Genetics	Chpt. 34
5-6	Genetics	Chpt. 34
5-6	Genetics	Chpt. 34
5-10	Final Exam Review	
5-11	Final Exam (noon - 2:00 pm)	

### **Tentative Lab Outline:**

<u>DATE</u>	<u>TOPIC</u>	<u>LAB #</u>
1-20	Blood	34
1-27	Heart and Blood Pressure	35 & 37
2-3	LAB EXAM I	
	Circulatory and Lymphatic Systems	38 & 39
2-10	Circulatory and Lymphatic Systems	40
2-17	LAB EXAM II	
	Respiratory System	41 & 42
2-24	Digestive System, Enzymes and Digestion	44, 45 & 46
3-3	LAB EXAM III and Presentations	
3-10	Nutrition	
3-17	NO LAB - SPRING BREAK	
3-24	Urinary System	47 & 48
3-31	Urinalysis	49
4-7	Reproductive Systems	50-52
4-14	LAB EXAM IV	
4-21	Development	53
4-28	Genetics and Heredity	54
5-5	LAB EXAM V and Presentations	

### **Course Goal and Objectives**

#### **Goal:**

The goal of this course is to facilitate student learning about human anatomy and physiology so that students better understand and appreciate the complexities of and interactions between organ systems in order to promote the advancement of life sciences in society.

#### **Objectives:**

- 1) To learn and retain information essential to a broad knowledge of human anatomy and physiology.
- 2) To understand and utilize scientific methods of inquiry.
- 3) To practice sound, safe, and sensible laboratory techniques.
- 4) To appreciate the historic development of science.
- 5) To apply scientific information and principles to everyday life.

- 6) To recognize the interrelationship among the sciences, technology, and society.

### **General Education (GE) Goal and Objectives**

#### **GE Goal:**

The goal of this course as it pertains to general education is to explain the interrelationships between humans and their environment and the role of science in their lives (GE Goal 1).

#### **GE Objectives:**

- 1) Demonstrate the application of the scientific method of inquiry.  
Skill 1: Recognize the principles of the scientific method of inquiry to solve problems.  
Skill 2: Analyze and interpret experimental data to draw logical conclusions
- 2) Demonstrate an awareness of the role of science in everyday life.  
Skill 1: Applies scientific principles to life experiences.  
Skill 2: Recognizes the role of science in understanding nature and society.

### **Relationship to Campus Theme:**

This course addresses the campus theme by incorporating the latest diagnostic procedures, treatments, and other technologies that are used to identify and treat human diseases and disorders.

### **Classroom Policies**

- 1) Cell phones and related devices are prohibited in the classroom at all times. It is recommended that you do not bring your cell phone into the classroom or, at the very least, turn it off.
- 2) Food and beverages are permitted in accordance with IVN classroom policy.
- 3) Be respectful of other students, technicians, instructors, and guests.

### **Academic Integrity**

All students are expected to adhere to the highest standards of academic integrity. Dishonesty in the classroom or laboratory and with assignments, quizzes and exams is a serious offense and is subject to disciplinary action by the instructor and college administration. For more information, refer to the Student Handbook.

### **Disabilities and Special Needs**

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact your instructor and Jan Nahinurk in the Learning Center (228-5479) as early as possible during the beginning of the semester.