

**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:** Shubham Datta, PhD

**Office:** NSC 114

**Office Hours:** 11am -12:50 pm M to F and by appointment

**Phone:** 701-228-5463

**Email:** [shubham.datta@dakotacollege.edu](mailto:shubham.datta@dakotacollege.edu)

**Lecture Schedule:** 7:35 - 8:25 am MWF in NSC 105

**Lab Schedule:** 7:25 - 8:50 am on Thursday in NSC 128 and/or by arrangement. Travel to MSU Cadaver Lab - TBD

**Textbook:** Anatomy and Physiology, Thibodeau and Patton, 9<sup>th</sup> or 10<sup>th</sup> Edition

**Lab Manual:** Anatomy and Physiology Laboratory Manual, K. Patton, 9<sup>th</sup> or 10<sup>th</sup> Edition

**General Education Competency/Goal # 1:** Identifies the interrelationships between humans and their environment.

**LO # 3:** Applies scientific information in everyday life

**Course Requirements:**

Grading is based on a standard college curve, where students earn a grade based on the percent of total possible points they obtain. The lecture component of this course consists of approximately 640 points (12 drop quizzes worth 20 points each, 3 lecture exams worth 100 points each, and one final exam worth 100 points). Lecture points are added to laboratory point (500 points) to obtain the total points possible for the course (1140). (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 make-up 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. It is the responsibility of the student to schedule any make-up exam during a time convenient for both student and instructor. 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>Lecture</u>	<u>TOPIC</u>	<u>READING</u>
1.	Introduction and Blood	Chpt. 27
2.	Blood and Anatomy of the Cardiovascular System	Chpt. 27, 28 - 30
	NO CLASS - MARTIN LUTHER KING DAY	
3.	Anatomy of the Cardiovascular System	Chpt. 28-30
4.	Anatomy of the Cardiovascular System	Chpt. 28-30
5.	Physiology of the Cardiovascular System	Chpt. 28-30
6.	Physiology of the Cardiovascular System	Chpt. 28-30
7.	Lymphatic System	Chpt. 31
8.	Immunity	Chpt. 32-34
9.	Immunity and Stress	Chpt. 32-34
	TEST I	<b>Ch 27 - 34</b>
10.	Anatomy of the Respiratory System	Chpt. 35-36
11.	Anatomy of the Respiratory System	Chpt. 35-36
12.	Physiology of the Respiratory System	Chpt. 36-37
	NO CLASS - PRESIDENTS DAY	
13.	Physiology of the Respiratory System	Chpt. 36-37
14.	Anatomy of the Digestive System	Chpt. 38-39
15.	Anatomy of the Digestive System	Chpt. 38-39
16.	Physiology of the Digestive System	Chpt. 40
17.	Physiology of the Digestive System	
18.	Nutrition and Metabolism	Chpt. 41
19.	Nutrition and Metabolism	Chpt. 41
20.	Nutrition and Metabolism	Chpt. 41
21.	Nutrition and Metabolism	Chpt. 41
	TEST II	<b>Ch 35 - 41</b>
22.	Urinary System	Chpt. 42
23.	Urinary System	Chpt. 42
	SPRING BREAK	
24.	Fluid and Electrolyte Balance	Chpt. 43

25.	Acid-Base Balance	Chpt. 44
26.	Male Reproductive System	Chpt. 45
27.	Male Reproductive System	Chpt. 45
28.	Female Reproductive System	Chpt. 46
29.	Female Reproductive System	Chpt. 46
30.	Birth Control and Sexual Transmitted Diseases	Chpt. 46
	TEST III	<b>Ch 42 - 46</b>
	EASTER BREAK	
31.	Growth and Development	Chpt. 47
32.	Growth and Development	Chpt. 47
33.	Growth and Development	Chpt. 47
34.	Growth and Development	Chpt. 47
35.	Genetics and Heredity	Chpt. 48
36.	Genetics and Heredity	Chpt. 48
37.	Genetics and Heredity	Chpt. 48
38.	Genetics and Heredity	Chpt. 48
	Back-up/Review	
	Back-up/Review	
	Final Exam	<b>Ch 47 - 48</b>

### Tentative Lab Outline:

<u>WEEK</u>	<u>TOPIC</u>	<u>LAB #</u>
1	Blood	34
2	Heart and Blood Pressure	35 & 37
3	LAB EXAM I Circulatory and Lymphatic Systems	38 & 39
4	Circulatory and Lymphatic Systems	40
5	LAB EXAM II Respiratory System	41 & 42
6	Digestive System, Enzymes and Digestion	44, 45 & 46
7	LAB EXAM III	
8	Nutrition	
9	NO LAB - SPRING BREAK	
10	Urinary System	47 & 48
11	Urinalysis	49
12	Reproductive Systems	50-52
13	LAB EXAM IV	
14	Development	53
15	Genetics and Heredity	54
16	LAB EXAM V	

## **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 or other electronic devices 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.

### **Student Email Policy**

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

### **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 Kayla O'Toole in the Learning Center (228-5479) as early as possible during the beginning of the semester.

### **Title IX:**

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.