

**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

**Office:** NSC 114

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

**Phone:** 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>
15-Jan	Introduction and Blood	Chpt. 27
2	Blood and Anatomy of the Cardiovascular System	Chpt. 27, 28 - 30
20-Jan	NO CLASS - MARTIN LUTHER KING DAY	
3	Anatomy of the Cardiovascular System	Chpt. 28-30
24-Jan	Anatomy of the Cardiovascular System	Chpt. 28-30
5	Physiology of the Cardiovascular System	Chpt. 28-30
29-Jan	Physiology of the Cardiovascular System	Chpt. 28-30
7	Lymphatic System	Chpt. 31
3-Feb	Immunity	Chpt. 32-34
9	Immunity and Stress	Chpt. 32-34
7-Feb	TEST I	<b>Ch 27 - 34</b>
11	Anatomy of the Respiratory System	Chpt. 35-36
14-Feb	Anatomy of the Respiratory System	Chpt. 35-36
13	Physiology of the Respiratory System	Chpt. 36-37
17-Feb	NO CLASS - PRESIDENTS DAY	
15	Physiology of the Respiratory System	Chpt. 36-37
21-Feb	Anatomy of the Digestive System	Chpt. 38-39
17	Anatomy of the Digestive System	Chpt. 38-39
26-Feb	Physiology of the Digestive System	Chpt. 40
19	Physiology of the Digestive System	
2-Mar	Nutrition and Metabolism	Chpt. 41
21	Nutrition and Metabolism	Chpt. 41
6-Mar	Nutrition and Metabolism	Chpt. 41
23	Nutrition and Metabolism	Chpt. 41
9-Mar	TEST II	<b>Ch 35 - 41</b>
24	Urinary System	Chpt. 42
13-Mar	Urinary System	Chpt. 42
16-20 Mar	SPRING BREAK	
23-Mar	Fluid and Electrolyte Balance	Chpt. 43
27	Acid-Base Balance	Chpt. 44
27-Mar	Male Reproductive System	Chpt. 45
29	Male Reproductive System	Chpt. 45

1-Apr	Female Reproductive System	Chpt. 46
3-Apr	Female Reproductive System	Chpt. 46
31	Birth Control and Sexual Transmitted Diseases	Chpt. 46
8-Apr	TEST III	<b>Ch 42 - 46</b>
10-13 Apr	EASTER BREAK	
33	Growth and Development	Chpt. 47
17-Apr	Growth and Development	Chpt. 47
35	Growth and Development	Chpt. 47
22-Apr	Growth and Development	Chpt. 47
37	Genetics and Heredity	Chpt. 48
27-Apr	Genetics and Heredity	Chpt. 48
39	Genetics and Heredity	Chpt. 48
1-May	Genetics and Heredity	Chpt. 48
41	Back-up/Review	
6-May	Back-up/Review	
8-May	Final Exam (9:00 - 11:00 AM)	<b>Ch 47 - 48</b>

### **Tentative Lab Outline:**

<u>DATE</u>	<u>TOPIC</u>	<u>LAB #</u>
1-23	Blood	34
1-30	Heart and Blood Pressure	35 & 37
2-6	LAB EXAM I	
	Circulatory and Lymphatic Systems	38 & 39
2-13	Circulatory and Lymphatic Systems	40
2-20	LAB EXAM II	
	Respiratory System	41 & 42
2-27	Digestive System, Enzymes and Digestion	44, 45 & 46
3-5	LAB EXAM III	
3-12	Nutrition	
3-19	NO LAB - SPRING BREAK	
3-26	Urinary System	47 & 48
4-2	Urinalysis	49
4-9	Reproductive Systems	50-52
4-16	LAB EXAM IV	
4-23	Development	53
4-30	Genetics and Heredity	54
5-7	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.