

Kingsborough Community College
The City University of New York
Department of Biological Sciences

SYLLABUS FOR BIO 1800

THE CUNY COMMON CORE: HUMAN BIOLOGY

Course description: FOR NON-SCIENCE MAJORS AND THOSE WHO PLAN TO TRANSFER TO SENIOR COLLEGES WITHIN CUNY. THIS COURSE WILL OFFER A ONE-SEMESTER OVERVIEW OF ANATOMY AND PHYSIOLOGY OF ALL ORGAN SYSTEMS OF THE HUMAN BODY. THE INTERRELATIONSHIPS BETWEEN ORGAN SYSTEMS WILL BE EMPHASIZED TO PROVIDE A HOLISTIC VIEW, PRACTICAL APPLICATIONS TO HEALTHCARE AND REINFORCEMENT OF HEALTH LITERACY SKILLS. THROUGH LECTURE AND DISCUSSION, THE PROCESSES OF THE HUMAN BODY WILL BE EXPLORED. FOR EACH TOPIC, INTERACTIVE COMPUTERIZED LAB EXPERIENCES INVOLVING APPLICATION OF THE PROCESS OF SCIENTIFIC INQUIRY WILL BE CONDUCTED. IN ADDITION, CURRENT ETHICAL ISSUES IN MEDICINE AND HEALTHCARE WILL BE STUDIED. THIS COURSE SATISFIES THE CUNY COMMON CORE REQUIREMENT FOR A COURSE IN LIFE AND PHYSICAL SCIENCES.

Credits/hours: 3 credits, 4 hours per week: 2 hours Lecture & 2 hours Lab

Prerequisites or co-requisites: None

Textbook:

Lecture and Lab: e-text

Essentials of Human Anatomy and Physiology

By: E. N. Marieb and S. M. Keller

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To purchase e-text, please go to Pearson Plus website: https://www.pearson.com/store/en-us/pearsonplus/p/9780135624340.html?_gl=1*yzwss7*_up*MQ..&gclid=CjwKCAiArfauBhApEiwAeoB7qAqNVtFeJecvBAmoVQ5GkofH5yzLytzpA-yHI5OkPNK_BF4hst6tHxoCyYkQAvD_BwE&gclsrc=aw.ds

Choose a monthly option for \$10.99 or a 4-month subscription for \$43.99. Enter Promo code WELCOMEBACK10 for a 10% discount.

Additional instructional materials: Online supplementary materials to accompany the required e-book

Learning Outcomes:

- Demonstrate knowledge of basic concepts of anatomy and physiology
- Identify and apply the fundamental concepts and methods of biology as they apply to the human body.
- Apply the scientific method to study of human anatomy and physiology, including hypothesis development, observation, experimentation, measurement, data analysis, and data presentation.
- Use the tools of biomedical research to carry out collaborative laboratory investigations.
- Gather, analyze, and interpret data and present it in an effective written laboratory report.
- Identify and apply biomedical research ethics and unbiased assessment in gathering and reporting scientific data.

Grading:

Lab reports/assignments	20%
Quizzes	30%
Exams	15%
Discussion posts	12%
Attendance check-in	3%
Final	20%
Total	100%

Accessibility Statement:

Access-Ability Services (AAS) serves as a liaison and resource to the KCC community regarding disability issues, promotes equal access to all KCC programs and activities, and makes every reasonable effort to provide appropriate accommodations and assistance to students with disabilities. Please contact this office if you require such accommodations and assistance. Your instructor will be glad to make the accommodations you need, but you must have documentation from the Access-Ability office for any accommodations.

Academic Integrity Policy:

Academic dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension, and expulsion. Examples of academic dishonesty include cheating, plagiarism, internet plagiarism, obtaining unfair advantage, and falsification of records. A full definition of each form of academic dishonesty, as well as procedures for imposition of sanctions for violations of the CUNY Policy on Academic Integrity, may be accessed at www.kingsborough.edu.

WEEK	LECTURE	LAB	Assignments and due dates
1 3/1- 3/3	Chapter 1 The Human Body: Orientation <ul style="list-style-type: none"> - 1.2. Levels of Organization - 1.3 Maintaining Life Functions - 1.5 Homeostasis 	Chapter 1 The Human Body: Orientation <ul style="list-style-type: none"> - 1.2b Organ Systems: identification of major organs. - 1.4. Language of Anatomy: anatomical positions, surface anatomy, directional terms, body planes and cavities. Video: Rat Dissection – Identification of Major organs <ul style="list-style-type: none"> - Understanding Science and scientific methods - Math and measurements: metric system 	Discussion Post: introduction Attendance check -in Quiz #1 Group Activity 3/3
2 3/4- 3/10	Chapter 2 Basic Chemistry: <ul style="list-style-type: none"> - 2.1 Concepts of Matter and Energy - 2.2 Composition of Matter - 2.3 Molecules and Compounds - 2.4 Chemical Bonds and Chemical Reactions - 2.5 Biochemistry Chapter 3 Cells and Tissues Part I Cells	Chapter 2 Basic Chemistry: <ul style="list-style-type: none"> - Videos on Biochemistry - Activity on Got Lactose - Group Report on glucose data analysis Chapter 3 Cells and Tissues <ul style="list-style-type: none"> - Passive transport: Diffusion and Osmosis Simulations 	Discussion Post Attendance check -in Quiz #2 Group Activity 3/10
3 3/11- 3/17	Chapter 7 Nervous System <ul style="list-style-type: none"> - 7.1 Organization of the nervous system - 7.2 Nervous tissue structure and function - Systems in Sync 	Chapter 7 Nervous System <ul style="list-style-type: none"> - 7.3 Central Nervous system: brain and spinal cord - 7.4 Peripheral nervous System Video: Sheep Brain Dissection – neuroanatomy : identification of major gyri, sulci and cortical areas <ul style="list-style-type: none"> - Neurophysiology: http://www.hhmi.org/biointeractive/neurophysiology-virtual-lab - Group Report on Neurophysiology 	Discussion on injuries and disorders of the nervous system Attendance check -in Quiz #3 Group Activity 3/17
4 3/18- 3/24	Chapter 9 Endocrine System <ul style="list-style-type: none"> - 9.1 The Endocrine System and Hormone Function - Systems in Sync 	Chapter 9 Endocrine System <ul style="list-style-type: none"> - 9.2 The Major Endocrine Organs - Type 1 vs type 2 diabetes - Group report on the Endocrine system 	Discussion on Endocrine Disorders and Diseases Attendance check -in Quiz #4 Group Activity 3/24

<p>5 3/25- 3/28</p>	<p>Chapter 3 Cells and Tissues</p> <p>Part II Body Tissues</p> <ul style="list-style-type: none"> - 3.4 Epithelial Tissues - 3.5 Connective tissues <p>Chapter 4 The Skin and Body Membranes</p> <ul style="list-style-type: none"> - 4.1 Classification of Body membranes - 4.2 Integumentary System - Systems in Sync 	<p>Chapter 3 Cells and Tissues</p> <ul style="list-style-type: none"> - Study of Epithelial Tissues - Study of Connective Tissues - Microscope <p>Chapter 4 The Skin and Body Membranes</p> <ul style="list-style-type: none"> - Jaundice - Melanin - Skin color - Group report on skin color 	<p>Discussion on disorders of the integumentary system Attendance check -in Quiz #5 Group Activity Exam#1 3/28</p>
<p>6 4/1- 4/7</p>	<p>Chapter 5 Skeletal System</p> <ul style="list-style-type: none"> - 5.1 Bones and overview - 5.5 Developmental aspects - Systems in Sync 	<p>Chapter 5 Skeletal System</p> <ul style="list-style-type: none"> - 5. 2 The axial skeleton: study of the skeleton - 5. 3 The appendicular skeleton: study of the skeleton - 5. 4 Joints: study of major types of articulations - Group report 	<p>Discussion on injuries and disorders of the skeletal system Attendance check -in Quiz #6 Group Activity 4/7</p>
<p>7 4/8- 4/14</p>	<p>Chapter 6 Muscular System</p> <ul style="list-style-type: none"> - 6.1 Overview - 6.2 Microscopic anatomy - 6.3 Skeletal muscle activity - Systems in Sync 	<p>Chapter 6 Muscular System</p> <ul style="list-style-type: none"> - 6.4 Muscle movements - 6.5 Gross anatomy - Group report 	<p>Discussion on injuries and disorders of the muscular system Attendance check -in Quiz #7 Group Activity 4/14</p>
<p>8 4/15- 4/21</p>	<p>Chapter 10 Blood</p> <ul style="list-style-type: none"> - 10.1 Composition and function - 10.2. Hemostasis 	<p>Chapter 10 Blood</p> <ul style="list-style-type: none"> - 10.3 Blood groups and transfusions - Group report 	<p>Discussion blood disorders Attendance check -in Quiz #8 Group Activity Exam #2 4/22</p>
<p>9 5/1- 5/5</p>	<p>Chapter 11 Cardiovascular System</p> <p>Function of the cardiovascular system</p> <ul style="list-style-type: none"> - 11.1 The heart - 11.2 Blood vessels - Systems in Sync 	<p>Chapter 11 Cardiovascular System</p> <ul style="list-style-type: none"> - Video: Sheep Heart Dissection - Virtual lab cardiology - Blood vessel anatomy - Group report 	<p>Discussion on cardiovascular disease Attendance check -in Quiz #9 Group Activity 5/5</p>

10 5/6- 5/12	Chapter 12 - Part I Lymphatic system - Part II Body Defenses - Systems in Sync	Chapter 12 - Anatomy of the lymphatic system - Virtual lab on immunology - Group report	Discussion on disorders of the endocrine system Attendance check -in Quiz #10 Group Activity 5/12
11 5/13- 5/19	Chapter 13 Respiratory System - 13.1 Functional Anatomy - 13.2 Respiratory Physiology - 13.3 Respiratory Disorders - Systems in Sync	Chapter 13 Respiratory System - 13.1 Functional Anatomy - 13.2 Respiratory Physiology - Group report	Discussion on respiratory disorders Attendance check -in Quiz #11 Group Activity 5/19
12 5/20- 5/26	Chapter 14 Digestive System - Part I Anatomy and Physiology - Part II Nutrition and Metabolism	Chapter 14 Digestive System - Part I Anatomy and Physiology - Part II Nutrition and Metabolism - Biomolecules - Group report on biomolecules	Discussion on disorders Attendance check -in Quiz #12 Group Activity 5/26
13 5/28- 6/2	Chapter 15 Urinary System - 15.1 Kidneys - 15.2 Ureters, urinary bladder, and urethra - 15.3 Fluid, electrolyte and acid balance	Chapter 15 Urinary System - Video: Sheep Kidney Dissection - GFR rate - Arterial blood gas/ph - Group report	Discussion on disorders/transplant Attendance check -in Quiz #13 Group Activity Exam #3 6/2

<p>14 6/3- 6/5</p>	<p>Chapter 16 Reproductive systems</p> <ul style="list-style-type: none"> - 16.2 Male reproductive function - 16.4 Female reproductive functions - 16.5 Mammary glands - 16.6 Pregnancy and embryonic development - Systems in Sync 	<p>Chapter 16 Reproductive systems</p> <ul style="list-style-type: none"> - 16.1 Male reproductive system anatomy: identification of the organs - 16.3 Female reproductive system anatomy: identification of the organs - Sex verification - Group report 	<p>Discussion on injuries and disorders of the nervous system Attendance check -in Quiz #14 Group Activity 6/5</p>
			<p>Final Exam 6/9</p>