BIO- 13001, Anatomy & Physiology I
Summer 2013, 3.0 Credits

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Schedule (class times and day(s)): Monday-Thursday, 8:30-11:00 AM,
June 24, 2013 to July 11, 2013
Room: Higgins 225

Boston College Mission Statement

Strengthened by more than a century and a half of dedication to academic excellence, Boston College commits itself to the highest standards of teaching and research in undergraduate, graduate and professional programs and to the pursuit of a just society through its own accomplishments, the work of its faculty and staff, and the achievements of its graduates. It seeks both to advance its place among the nation's finest universities and to bring to the company of its distinguished peers and to contemporary society the richness of the Catholic intellectual ideal of a mutually illuminating relationship between religious faith and free intellectual inquiry.

Boston College draws inspiration for its academic societal mission from its distinctive religious tradition. As a Catholic and Jesuit university, it is rooted in a world view that encounters God in all creation and through all human activity, especially in the search for truth in every discipline, in the desire to learn, and in the call to live justly together. In this spirit, the University regards the contribution of different religious traditions and value systems as essential to the fullness of its intellectual life and to the continuous development of its distinctive intellectual heritage.

Course Description
Introduction to correlating the structure and function of the human body, treating the skin, skeletal, muscular and nervous systems. Laboratory highly recommended. Satisfies nursing and other health-care requirements.

Course Objectives

In this course, the successful student will learn and be able to demonstrate through observation, manipulation, quizzes, exams, and laboratory work:

1. the meanings of the title of the course in terms of general biology.
2. the levels of organization of the body from chemical to organ system and show how the different levels influence each other.
3. the relationship of the chief biochemicals of the human body to their functions at various levels of organization.
4. how various types of materials enter and leave the human cell.
5. the role of the human integumentary system and its organs.
6. the cellular makeup of the epidermis, the dermis, and the hypodermis and their roles.
7. the organs and functions of the human skeletal system.
8. the significance of some aspects of the histology of bone and cartilage.
9. the development of the bones from before birth well into maturity.
10. the electrolyte composition of intracellular and extracellular fluid.
11. what a cellular electric potential is, and what are local potentials, resting potentials, action potentials, and hyper-potentials.
12. the histological characteristics and locations of the three categories of muscle tissues, with special emphasis on the skeletal.
13. how muscles contract and relax, from stimulation through innervation.
14. what are the maintenance nutritional demands of muscle tissue.
15. the parts and functions of the chief kinds of neurons.
16. the contributions of different kinds of glial cells to the general operation of the nervous system.
17. how to trace an action potential in a reflex arc from stimulus receptor to effector organ.
18. the location, parts, and functions of the central nervous system.
19. how to distinguish among the afferent, somatic motor, and autonomic portions of the peripheral nervous system.
20. the origin, functions, and reabsorption of cerebrospinal fluid.
21. how to distinguish between exocrine and endocrine glands, and demonstrate how endocrine organs control and are controlled by other organs and systems of the human body

Laboratory Objectives:
1. the use of the chief anatomical terms for human body positions, directions, sections, cavities, and regions.
2. to develop skill in examining and interpreting histological preparations of human body tissues.
3. how to maintain a safe and productive lab station and be proficient in recording results.
4. the various kinds of human epithelia and associate certain functional characteristics with what they see in histological preparations.
5. the various kinds of human connective tissue proper and relate what they see in these preparations to their functions.
6. the various skin levels and integumentary organs in histological preparations and relate what they see to their functions.
7. the various kinds of bone and cartilage tissue and relate what they see to their function.
8. the bones of the body and name some of their markings.
9. the signs of growth in supportive connective tissue histological preparations.
10. the various types of bone articulations and understand their workings.
11. the features of skeletal muscle tissue in specimens viewed under the microscope.
12. how muscles act by recruitment and that muscles differ in their resistance to fatigue, and explain.
13. how synaptic areas such as the site of afferent transmissions and neuromuscular junctions work or may be blocked.
14. the parts of the neuron including their cell body parts and fibers.
15. the components of nerves and ganglia.
16. the distinction between myelinated and unmyelinated fibers and appreciate the effect of nodes of ranvier.
17. the coverings of the human and sheep brains, the larger and smaller structures of these brains, and the connectors to the cranial nerves.
18. the functions of the parts of the human eye.
19. the functions of the parts of the human ear and vestibular apparatus.
20. the main regions of a cross section of the spinal cord including the spinal nerve connection and its osseous passageway and the appearance of the spinal cord at various levels of the spinal column.

Grading

Exam I = 15 points
Exam II = 20 points
Exam III = 25 points

Homework 1 = 10 points
Homework 2 = 10 points
Homework 3 = 10 points

Lecture Quizzes = 10 points

Exams are made up of a combination of multiple choice, matching, true/false, short answer and essay. They are GIVEN IN LECTURE, at the BEGINNING OF LECTURE, so DON’T BE LATE!!! Homework assignments are due the day of the exam, before the exam begins or will not be accepted. Exams and homework are to be done BY YOURSELF. THEY ARE NOT CONSIDERED GROUP WORK. Working together or copying homework is considered cheating and will be punished as such!

No “extra work” (research papers, laboratory investigations, independent study, etc.) will be accepted to replace coursework in the categories listed above. Cell phones, PDAs, computers, portable media players, tablets, translators and any other devices capable of texting or internet connection and/or playing audio or video electronic files are not allowed for support on exams and quizzes.

Summer Grading System
The undergraduate grading system consists of twelve categories: A (4.00), A- (3.67), excellent; B+ (3.33), B (3.00), B- (2.67), good; C+ (2.33), C (2.00), C- (1.67), satisfactory; D+ (1.33), D (1.00), D- (1.67), passing but unsatisfactory; F (.00), failure; I (.00), incomplete; F (.00), course dropped without notifying office; W (.00), official withdrawal from course. The graduate grading system is A (4.00), A- (3.67), Excellent; B+ (3.33), B (3.00), good; B- (2.67), C (2.00), passing but not for degree credit; F (.00), failure.

Grade Reports. All students are required to log into the web through Agora to access their summer grades. Students must utilize their BC username and password to log on. If your username or password is not known, the HELP Desk located in the Campus Technology Resource Center (CTRC) in O’Neill Library will issue a new one. The CTRC requires a valid picture ID (a BC ID, driver’s license or passport) to obtain your password.

These texts are also used for A&P II with lab as well.


Please note that the Text and Lab Manual can be bought as a package. I selected the loose leaf version of the text to save on cost. The ISBN for the package is 9870321874917. However, if you want to purchase the text separately the ISBN is 9780321799753.
Important Policies
http://www.bc.edu/content/bc/schools/advstudies/guide/academicinteg.html

Written Work
Graduate and undergraduate students are expected to prepare professional, polished written work. Written materials must be typed in the format required by your instructor. Strive for a thorough, yet concise style. Cite literature appropriately, using APA, MLA, CLA format per instructors decision. Develop your thoughts fully, clearly, logically and specifically. Proofread all materials to ensure the use of proper grammar, punctuation, and spelling. You are encouraged to make use of campus resources for refining writing skills as needed [http://www.bc.edu/libraries/help/tutoring.html].

Scholarship and Academic Integrity
It is expected that students will produce original work and cite references appropriately. Failure to reference properly is plagiarism. Scholastic dishonesty includes, but is not necessarily limited to, plagiarism, fabrication, facilitating academic dishonesty, cheating on examinations or assignments, and submitting the same paper or substantially similar papers to meet the requirements of more than one course without seeking permission of all instructors concerned. Scholastic misconduct may also involve, but is not necessarily limited to, acts that violate the rights of other students, such as depriving another student of course materials or interfering with another student’s work.

Use of Electronic Devices
The use of cell phones, computers, tables and other electronic devices are allowed during lectures sessions but should not be a distraction for other students or the instructor. Cell phones are expected to have ringers set to a low volume or on vibrate and conversations should be conducted outside the classroom when the class is in session. During exams and quizzes only the reference materials provided by the instructor and a calculator can be used. The use of any other electronic devices including but not limited to cell phones, tablets and portable media players is expressly forbidden and may result in a decreased score or a grade of zero for the quiz or exam at the instructor’s discretion.

Request for Accommodations
If you have a disability and will be requesting accommodations for this course, please register with either Dr. Kathy Duggan (dugganka@bc.edu), Associate Director, Connors Family Learning Center (learning disabilities or AHD) or Dean Paulette Durrett, (paulette.durrett@bc.edu), Assistant Dean for students with disabilities, (all other disabilities). Advance notice and appropriate documentation are required for accommodations. http://www.bc.edu/content/bc/libraries/help/tutoring/specialservices.html.

Attendance
Class attendance is an important component of learning. Students are expected to attend all classes and to arrive by the beginning of and remain for the entire class period. When an occasion occurs that prevents a student from attending class, it is the student’s obligation to inform the instructor of the conflict before the class meets. The student is still expected to meet all assignment deadlines. If a student knows that he or she will be absent on a particular day, the student is responsible for seeing the instructor beforehand to obtain the assignments for that day. If a student misses a class, he or she is responsible for making up the work by obtaining a classmate's notes and handouts and turning in any assignments due. Furthermore, many instructors give points for participation in class. If you miss class, you cannot make up participation points associated with that class. Types of absences that are not typically excused include weddings, showers, vacations, birthday parties, graduations, etc. Additional assignments, penalties and correctives are at the discretion of the instructor. If circumstances necessitate excessive absence from class, the student should consider withdrawing from the class. In all cases, students are expected to accept the decision of the instructor regarding attendance policies specific to the class.

Consistent with our commitment of creating an academic community that is respectful of and welcoming to persons of differing backgrounds, we believe that every reasonable effort should be made to allow members of the university community to observe their religious holidays without jeopardizing the fulfillment of their academic obligations. It is the responsibility of students to review course syllabi as soon as they are distributed and to consult the faculty member promptly regarding any possible conflicts with observed religious holidays. If asked, the student should provide accurate information about the obligations entailed in the
observance of that particular holiday. However, it is the responsibility of the student to complete any and all class requirements for days that are missed due to conflicts due to religious holidays.

There may be circumstances that necessitate a departure from this policy. Feel free to contact the Summer Session Office at 617-552-3800 for consultation.
Deadlines
Assignments are due at the beginning of the class period on the specified dates. Late assignments will be graded accordingly.

Make-up Policy: Examination can be made up if the student notifies the instructor by voice-mail or e-mail prior to the exam time and has a credible reason for absence from the exam (sickness, etc.). Make-up examinations do not contain extra credit and are assigned a point value of 100 points total. Examinations missed without notifying the instructor prior to the exam time will not be eligible for make-up and will be scored as a zero. Verifiable documentation must accompany requests for make-up of the final or more than one hour examination. All make-up examinations may be recorded at a discounted value (less than 100 points) at the instructor’s discretion. There is no make-up for quizzes since one score is dropped. Late homework assignments receive less than full credit as described below.

Course Assignments (readings, exercises and/or experiences)

Examinations: There will be three, two hour examinations (scored as 100 points each but exams will normally have at least 5 points of extra credit).

Quizzes: Quizzes will be administered at the start of the class in all lecture sessions which do not immediately follow an examination and will reflect the topics covered the previous day. The lowest quiz scores will be dropped. No additional time will be provided students who come to class late for the quiz. As for exams students who require any special accommodations must provide written documentation prior to the first quiz taken.

Homework: Homework will be graded for effort and punctuality only. In both cases the assignments are normally due at the class break time (around 10:00 AM) although they may be collected at the end of the lecture period. Assignments received on time and showing reasonable effort will receive full credit. Late or incomplete assignments will receive less than full credit or a zero at the instructor’s discretion. (1.0 point each)

Time commitment: Students will have to spend a significant amount of preparation time in addition to the contact time especially in this compressed format course. Students should be prepared to dedicate at least 3 hours per lecture day for reading and homework assignments.

Reserve materials: A copy of the textbook and lab manual is also available in the library.
Tentative Lecture Schedule

**Week 1:** Chapter 1 – Introduction; Chapter 2 – Chemistry; Chapter 3 – The Cell; Chapter 4 – Tissue; Chapter 5 – Integumentary System

- **June 26th**: QUIZ #1 (covers material found in the Chemistry Review)
- **June 27th**: Exam I and Homework 1 due

**Week 2:** Chapter 6 – Bones and Skeletal Tissue; Chapter 7 – The Skeleton; Chapter 8 – Joints; Chapter 9 – Muscles and Muscle Tissue; Chapter 10 – The Muscular System

- **July 3rd**: Quiz #2
- **July 4th**: OFF
- **July 8th**: Exam II and Homework 2 due AND TAKEN DURING THE LAB PERIOD AT 11:30.

**Week 3:** Chapter 11 – Fundamentals of the Nervous System and Nervous Tissue; Chapter 12 – The Central Nervous System; Chapter 13 – The Peripheral Nervous System; Chapter 14 – The Autonomic Nervous System; Chapter 16 – The Special Senses

- **July 10th**: QUIZ #3
- **July 11th**: Exam III and Homework 3 due