BIOL1320-01 Anatomy and Physiology
M,T,W,Th 8:15-11:00
Summer 2016

Professor: Carol Chaia Halpern, Ph.D.
Office location: Higgins 425
Telephone # 552-3565
e-mail: halpern@bc.edu
Office hours: Th 11:30 – 1 and by appointment

Students are strongly encouraged to come see me (either during office hours or by appointment) regarding questions or difficulties with the material covered and/or other difficulties that interfere with the learning process.

Textbook: Marieb, Elaine N and Katja Hoehn Human Anatomy and Physiology
Tenth edition, Pearson/Benjamin Cummings, 2016

Additional Readings:
Please find these on Canvas under this course.

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.

BIOL 132001 Anatomy and Physiology II
Corequisite for Boston College students: BIOL 1330
The second portion of this introductory course is a continuation of BIOL 1300/1310, with a primary emphasis on the physiology of the major body systems. Systems studied in this course include the sensory, endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems. While the physiological functions under normal conditions are emphasized, relevant disease or dysfunctional conditions are also discussed. Does not satisfy Natural Science Core Requirement for BC students. This course is intended for Nursing/Allied Health Professions students. Boston College biology majors/premed students must obtain department approval before registering for this course.

July 18–August 4, M T W TH, 8:15-11:00 a.m.
Carol Chaia Halpern

Course Requirements and Information:
The topics covered this semester will focus on the major organ systems. We will use the foundation from first semester to understand the basis for the harmonious function of organs and organ systems in the healthy person, and some of the conditions that result in, or are present in a situation of dis-ease.
While we will primarily approach these topics from a Western Scientific perspective, we will also discuss some of the ways in which our thoughts, beliefs, feelings, both affect our physiology and are inextricably part of it. In other words, the oneness of body-mind-spirit, and the profound ways in which consciousness is part of that, will be touched on.

Students are strongly encouraged to come see me (either during office hours or by appointment) regarding questions or difficulties with the material covered and/or other difficulties that interfere with the learning process.

**Learning Outcomes:**

- Describe the structural aspects of the special senses, and explain how they support the function of the given sense
- Explain the way in which the body-mind is applicable to our experience of sensation
- Explain the neural and vascular relationship between the hypothalamus and pituitary
- Discuss the synthesis, regulation, release, and effects of oxytocin and vasopressin (antidiuretic hormone).
- Describe the role of Hypothalamic Releasing Hormones/Factors in the regulation of the adenohypophysis.
- Discuss the effects of Growth Hormone and Prolactin.
- Explain the effects and regulation of the Pituitary Trophic Hormones: TSH, LH, FSH, ACTH.
- Discuss the cellular and physiological/whole organism effects of Thyroid Hormones; explain the synthesis and regulation of the hormones.
- Describe the endocrine regulation of calcium
- Discuss the roles of adrenal gland hormones in the regulation of blood glucose and sodium, as well as their roles in the response to stress.
- Describe the composition of blood and the roles of various components.
- Describe the structural features of the heart and explain the blood flow through it; discuss the relationship between the electrical and mechanical events of the cardiac cycle.
- Discuss blood pressure and the factors that affect it; explain hypertension and atherosclerosis, and the types of life style interventions that have been shown to alleviate these conditions.
- Describe the structures that make up the lymphatic system, and their general roles.
- Explain the various types of immunity (inborn, acquired, natural, artificial); explain the roles of humoral and cellular immunity and their mechanisms of protection; describe the categories and general structure of antibodies, mechanism of antibody formation, types and roles of T cells.
- Describe the mechanics of inhalation and exhalation; discuss the structural features of the respiratory system that are protective of the lungs and the features that allow for efficient gas exchange; explain what governs the flow of oxygen and carbon dioxide. Describe the ways in which oxygen and carbon dioxide are transported in the blood, and the factors that regulate them (e.g. pH and temperature).
- Describe the structures that make up the alimentary canal and the accessory structures that are important in the digestive process. Explain the physical and chemical processes of digestion. Explain the roles of the various nutrients in maintenance and metabolism.
- Discuss the structures and functions of the female and male reproductive systems. Describe the roles of various hormones in regulating the reproductive system.

* **Academic Integrity:** Please review the University policy regarding academic integrity. Please be aware that this policy is taken very seriously in this course.
Boston College values the academic integrity of its students and faculty. It is your responsibility to familiarize yourself with the university’s policy on academic integrity: http://www.bc.edu/offices/stserv/academic/resources/policy/#integrity. If you have any questions, always consult your professor.

Violations of academic integrity will be reported to your class dean and judged by the academic integrity committee in your school. If you are found responsible for violating the policy, penalties may include a failing grade as well as possible probation, suspension, or expulsion, depending on the seriousness and circumstances of the violation.

* Lecture Exams: These will be based on material covered in class. Therefore lecture attendance is highly recommended. The final exam will be cumulative and cover all topics covered.

Students must take all exams at their scheduled time. Please review the exam dates immediately, and make certain that you or your family do not make appointments for those dates/times. In case of a medical emergency, you must contact me PRIOR to the examination by phoning me at 552-3565. Please DO NOT call the Woods College Office or have your parent call there in lieu of contacting me. If I am not in my office, please leave a phone message or email message indicating how I can reach you. You need to call me even if you have a note from the Infirmary, a Doctor, a Parent, etc. Failure to do so will result in a zero for that exam. Such a phone call must be followed by a letter from the Dean.

* How your grade will be determined:

Your grade will be based on the average of the three hourly exams and the cumulative final exam. Each of the four exams is worth 25% of the grade. Your letter grade will roughly reflect the following: the A range is in the 90s; the B range in the 80s; the C range in the 70s, etc. I will determine the exact cut off for a given letter grade after the final exam, and the calculation of the class average.

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- (.67), passing but unsatisfactory; F (.00), failure; I (.00), incomplete; F (.00), course dropped without notifying office; W (.00), official withdrawal from course.

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.

Important Policies
http://www.bc.edu/content/bc/schools/advstudies/guide/academicinteg.html

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.

If you are a student with a documented disability seeking reasonable accommodations in this course, please contact Kathy Duggan, (617) 552-8093, dugganka@bc.edu, at the Connors Family Learning Center regarding learning disabilities and ADHD, or Paulette Durrett, (617) 552-3470, paulette.durrett@bc.edu, in the Disability Services Office regarding all other types of disabilities, including temporary disabilities. Advance notice and appropriate documentation are required for accommodations.
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