

Stony Brook University
School of Health, Technology and Management
Health Science Department: Health Science major
FALL 2018

HAN 202.01: Human Anatomy and Physiology for Health Sciences II (4 credits)
Lecture Day/Time: Wednesday, 10am-1pm
Lecture location: LH 1, Level 2
Lecture Professor: William J. Germano, D.C., M.S.
E-mail: william.germano@stonybrook.edu
Office: Level 2, SHTM, Room 452
Office hours: By appointment

Lab Day/Time: Online 3 hours weekly
Lab Professor: Professor Weiss
E-mail: matthew.weiss@stonybrook.edu
Office: Level 2, SHTM, Room 452
Office hours: TBA

Chair of the Health Science Major:
Dr. Zelizer deborah.zelizer@stonybrook.edu

Health Science Advisors:
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Course Administrator:
Professor Crapanzano donna.crapanzano@stonybrook.edu

Course Description:

This is the second course in a two-part sequence that continues the study of human anatomy and physiology. Topics include the endocrine system, blood composition, the cardiovascular system, the lymphatic system, the immune system, the respiratory system, the digestive system, nutrition, the urinary system, the reproductive system, fluid, electrolyte, acid-base balance and heredity. Laboratory sessions entail virtual online exercises designed to illustrate principles learned and computer simulated processes and dissection in physiology and anatomy. Different formats used are cadaver models, anatomical models, histology slides and physiological experiments.

(P/NC grade option is not available)

This course satisfies the SB GenEd category Science, Technology, Engineering and Mathematics (STEM).

Course pre-requisite: HAN 200

Goal:

To provide a basic foundation in human anatomy and physiology for the student majoring in the health science's or pursuing a clinical based degree.

Behavioral Objectives: Upon completion of this course, student will be able to:

1. Describe the organs/glands of the endocrine system including hormone(s) secreted, specific target cell(s), and the hormone(s) action.
2. Describe how hormones are classified into steroids and non-steroids.
3. Identify the factors that affect circulating hormone concentration and the difference in the time required for the effects of hormones to be seen in target cells.
4. Describe the components of blood and their relative proportions.
5. Discuss the functions of blood and define hemostasis.
6. Explain the mechanism and function of clot retraction and tissue repair.
7. Discuss the basis for human blood groups.
8. List and describe the anatomy and physiology of the cardiovascular system including the heart, pericardium, arteries, veins, and capillaries.
9. Describe the composition and function of blood and discuss where each component is produced within the body.
10. Draw, label, and define a typical EKG.
11. List and describe the general structures and functions of the lymphatic system and how they relate to immunity.
12. Define disease and describe the major types of pathogens that create human disease including bacteria, viruses, fungus, and animal parasites and how they cause disease.
13. Define immunity and distinguish between specific and nonspecific immunity and provide examples of each.
14. Explain the roles of the skin and mucous membranes in the innate defense.
15. Differentiate between the inflammatory, humoral, and cell-mediated response.
16. Identify the different types of lymphoid found in the body.
17. Examine the structure and function of the lymph nodes.
18. Define antigen and differentiate between self and nonself.
19. List the types of T cells and their roles.
20. Examine immunodeficiencies, autoimmune diseases and hypersensitivity.
21. List, locate, and discuss the general structures and functions of the respiratory system.
22. Describe the location, structure and function of the organs of the digestive system (both the alimentary canal and accessory organs to digestion).
23. Describe the physiology of chemical digestion and absorption.
24. Define metabolism, anabolism, catabolism, and oxidation-reduction reactions.
25. Discuss the metabolic roles of the liver.
26. Describe the body's metabolic rate, basal metabolic rate and total metabolic rate and then calculate your own.
27. Describe the general structures and functions of the urinary system including the kidneys, ureters, bladder and urethra.

28. Name the structures and functions of the nephron and its elements.
29. Define micturation and the events controlling it and explain the steps of urine formation.
30. List the physical characteristics of urine and indicate its chemical composition.
31. Identify the roles of antidiuretic hormone and aldosterone in water and sodium reabsorption.
32. Define water and electrolyte balance and discuss why this is important to the normal functioning of the body.
33. Explain the thirst mechanics.
34. Define acidosis and alkalosis and describe the sources of hydrogen ions and how their concentration is regulated.
35. Describe how sodium regulates fluid and electrolyte balance.
36. Differentiate between respiratory and metabolic acidosis and alkalosis.
37. List and describe the general structures and functions of the reproductive system of males and females.
38. Define and discuss puberty and menopause.
39. Differentiate between development and growth and describe the major events of prenatal development.
40. Describe the events of pregnancy on the mother.
41. Discuss the different types of genetic inheritance.
42. Describe the environmental factors in gene expression.

Course Requirements

The Health Science Department recognizes the correlation between course attendance and both student retention and achievement so any class session or activity missed, regardless of cause, reduces the opportunity for learning and may adversely affect a student's achievement in the course and the final course grade. Class attendance is required, beginning with first day of class and students are required to attend all HAN pre-requisite class sessions for which they are registered.

E-mail Communication

When communicating with us via e-mail, be sure to include your full name, SB ID# as well as the section number for the course. We will not be able to respond to you if we don't know who you are or which section you are in.

Course Expectations

Every student should review the syllabus and submit assignments by the required due date, regardless of an absence.

It is your responsibility to review your grades on Blackboard on a regular basis and bring any discrepancies to my attention in a timely manner. **No changes will be made to any grade posted on Blackboard as of the last day of class.**

Work done in class is part of a student's participation grade. Classwork that is missed due to an absence cannot be submitted at a later date/time.

Respect for the instructor and fellow students throughout class is expected. This includes, but is not limited to:

- being on time for class
- refraining from using cell phones during class; cell phone ringers should be turned off or set to vibrate
- refraining from using your phone or computer to check email, surf the web for entertainment purposes, etc., during class time. These behaviors will negatively impact your participation grade.
- students may be permitted to use their laptops or other electronic devices during classroom time for academic purposes only.

Professional behavior is expected at all times while in the Health Science Center.

Class Participation/Attendance Policy

Active class participation is vital in learning, and, quite simply, you cannot participate if you are not in class. Regardless of the reason for the absence, failure to attend class always results in missed opportunities to hear and learn from your professors and fellow classmates.

- Class participation will be assessed through the use of clickers, as well as active engagement in class discussion, attentiveness, and instructor observation of student interaction during small group work.
- Students are required to attend all class sessions and are **REQUIRED** to use their clickers throughout the class; students not actively participating throughout class with clickers will have points deducted from their class participation grade. It is each student's responsibility to bring their clicker to class, to have spare batteries on hand and to ensure that the clicker is working properly.
- Students are **NOT** allowed to share clickers with other students **AND/OR** click in for a student who is not in class.
- Excessive lateness or early departure will result in lower participation grades and a decrease in your overall final course grade.
- Every student should review the syllabus and submit assignments by the required due date, regardless of an absence. An absence from class does not allow for late assignment submissions.
- Work done in class is part of a student's participation grade. Class work that is missed due to an absence cannot be submitted at a later date/time.
- Clicker points will be uploaded to Blackboard at the completion of each class session.

- It is **YOUR** responsibility to make sure that your clicker has been registered and that you are clicking in, and not sending a message. Should you have any problems with your clicker, please go to the Help Desk in the Melville Library.

There are no excused absences for this course and attendance/participation after the add/drop period will be counted toward the final course grade.

Students absent on officially documented university religious observances; as well as curricular and extracurricular activities must provide the instructor with original documentation regarding their absence at the beginning of the semester and 1 (one) week before the event takes place.

Examination policy

During exams, when you enter the room, please adhere to the following:

- The only **items in your hand as you enter the room should be pencils, erasers, ID badge, and highlighters** (highlighters/colored pens are only if the instructor allows).
- All electronic devices (i.e., cell phones, smart watches, step trackers, Google glasses, etc.) must be put either at the front of the room or in your bag/backpack. If you are found with an electronic device on your person during an exam it will be an automatic charge of academic dishonesty. Cell phones must be turned off.
- Once you enter the room there will be no more talking!
- All items (i.e., notes, cell phones, etc.) must be packed away before you enter the room. Before you take your seat, you must put your pocketbooks, cell phones, backpacks, etc. at either the side of the room or the front of the room.
- Find your seat number (if applicable).
- Do not turn your exam over, start filling out your scantron form, etc. until you are instructed to
- Other information: If you are wearing a ball cap, the brim must be turned to 6 o'clock; if you wish to bring a drink to your seat it will be permitted but the faculty might ask to inspect the bottle/container; once the exam starts. A student will not be permitted to leave the room and return (i.e., go to the rest room and then return to exam).
- At any time during the exam we reserve the right to ask you to change seats.
- Tests and examinations will begin on time and any student arriving 10 minutes after the start will not be able to take the test/exam and will receive a grade of zero (0) for that test/examination. There are no makeup tests or exams given during the semester.
- It is the student's responsibility to make sure that all test questions have been answered prior to leaving the examination area. Students cannot review or make changes to exams once they have left the room in which the examination is being given. Students are required to return their scantron and all pages of the paper exam. **Only scantron answers will be considered for grading purposes.**
- Students must complete the exam in the allotted time, students must turn in the exam when the instructor calls time. If a student refuses to turn in the

exam/scantron (when the time instructor/proctor calls time) the student will be given the grade of zero for that exam.

- There are no makeups for missed quizzes however the lowest scored quiz or one (1) missed quiz will be dropped at the end of the semester.
- If you miss one (1) test or examination, no documentation is needed and you are eligible to take:
 - One cumulative make-up exam which will be administered at the end of the semester to replace the missed test or exam. Note: a request must be filled out no later than 11:59 pm on the following link, by November 27th.
 - The make-up exam will consist of short answer and fill in the blank and will cover all the chapters from the entire semester.
 - This option is only allowed once per semester and no other makeups or exceptions will be allowed; a grade of zero (0) will be assigned for any other missed examinations.
 - This option is not for assignments or class participation (attendance/clickers).

Please note **there is no** extra credit, extra assignments or additional work given or accepted to raise a student's grade or replace more than one (1) missed exam.

FINAL EXAM CONFLICT INFORMATION

If you have a final examination conflict (meaning a class you are taking on West Campus has a final at the same time as your HAN final), you will need to put in a request for an alternate time or day to take your HAN exam. Do not make a request to take the exam for your West Campus class at an alternate time. This request needs to be submitted in writing via this google form link <https://goo.gl/forms/kMz2S6cnODE8A7pr2> by 10/30/2018. You will be informed of the alternative day or time for you to take the HAN final exam by 11/27/2018. If your request is made after 10/30/2018, your request will not be denied but there may be less available days or times. Any further questions should be directed to the Course Administrator – Professor Crapanzano @ donna.crapanzano@stonybrook.edu

Grading Scale: (there is no P/NC or G/P/NC grading option for this course; it must be taken for a letter grade. A grade of C or better is required in this course to advance to the Health Science major's senior year curriculum. If a student withdraws from the course or does not earn the grade of C in the course, the student is only permitted two re-takes of the course. After an unsuccessful third attempt the student must meet with a Health Science advisor to drop the Health Science major/change their major.

A (100 – 95)

A- (94-90)

B+ (89-87)

B (86-83)

B- (82-80)

C+ (79-77)

C (76-73)

C- (72-70)

D+ (69-67)

D (66-60)

F (< 60)

Required Text with Mastering A&P for HAN 200 and HAN 202 (one time purchase)

Marieb, E.N. (2018). *Human Anatomy & Physiology* (11th Edition) with Mastering A&P component. San Francisco, CA: Pearson Education, Inc., Pearson Benjamin Cummings.

ISBN-13: 9780134763415

ISBN-10: 0134763416

Required Readings:

- Weekly Chapters posted with course outline
- 1 journal article to be posted in Blackboard under Assignments after Exam #1

Required Equipment:

Turning Point Technology Clicker

Teaching Strategies:

Lecture format via PowerPoints, ECHO 360, virtual discussion board and videos with student discussion and group activities; including correlated lab material through case studies, anatomical models, clinical videos and completing the objectives; use of Response system. Through the Virtual Human Anatomy & Physiology Lab specific activities to address the objectives that correlate with the lectures and discussion board posts to review human clinical scenarios to emphasize the relationship of the anatomy, physiology and clinical medicine.

Note: Virtual lab is asynchronous format and all laboratory work must be done independently.

Privacy of Course Material

When participating in social electronic communication (Twitter, You Tube, Facebook, Email, Text Messaging, etc.):

- A student assumes total responsibility for content (photos, comments, videos, etc.) and monitoring.
- Students are prohibited from photographing or video or audio recording any part of Health Science coursework unless they have permission from the course instructor.
- All academic materials (exams, assignments, student projects and presentations, case studies, lectures, etc.) are confidential and must not be disseminated in any way unless the student receives approval from the department chairperson in writing.

Weekly Schedule of Readings & Exams: Chapters should be read prior to scheduled class. Check Blackboard weekly for updates

Date	Lectures	Reading
1 st class 8/29	COURSE INTRODUCTION & REQUIREMENTS CHAPTER 16: THE ENDOCRINE SYSTEM	Chap 16
2 nd class 9/5	CHAPTER 17: BLOOD	Chap 17
3 rd class 9/12	CHAPTER 18: CV SYSTEM: THE HEART	Chap 18
4 th class 9/19	CHAPTER 19: CV SYSTEM: BLOOD VESSELS	Chap 19
5 th class 9/26	EXAM 1: CHAPTERS 16-19 CHAPTER 20: LYMPHATIC SYSTEM	Chap 20
6 th class 10/3	CHAPTER 20 (CONT.) CHAPTER 21: IMMUNE SYSTEM	Chap 21
7 th class 10/10	CHAPTER 22: RESPIRATORY SYSTEM	Chap 22
8 th class 10/17	TEST 2: CHAPTERS 20-22 CHAPTER 23: DIGESTIVE SYSTEM	Chap 23
9 th class 10/24	CHAPTER 23 (CONT.) CHAPTER 24: NUTRITION/METABOLISM/BODY TEMP	Chap 24
10 th class 10/31	CHAPTER 25: URINARY SYSTEM	Chap 25
11 th class 11/7	TEST 3: CHAPTERS 23-25 CHAPTER 26: FLUID/ELECTROLYTE/ACID-BASE	Chap 26
12 th class 11/14	CHAPTER 26 (CONT.) CHAPTER 27: REPRODUCTIVE SYSTEM	Chap 27
13 th class 11/28	CHAPTER 27 (CONT.) CHAPTER 28: PREGNANCY & DEVELOPMENT	Chap 28
14 th class 12/5	CHAPTER 29: HEREDITY	Chap 29
15 th class 12/12	EXAM 4: CHAPTERS 26-29	

Examinations:

- 4 written Lecture exams (each weighing equally): 50%
 - 50 questions - multiple choice and matching questions
- 4 written Lab exams (each weighing equally): 20%
 - 15 questions with anatomical & physiological pictures – multiple choice, matching, short answer or fill in the blanks

Evaluations:

- One journal article review 5%
 - Posted in Blackboard under Assignments after Exam #1
- Class Participation 5%
 - Clickers, group discussion and in- class activities
- Lab Orientation 5%
 - Mandatory 45 minute in person lab orientation & review
- Virtual lab activities 15%
 - Mastering A&P weekly activities, see Grading for Lab and items posted in Blackboard under Assignments

Grading for Lab:

See the lab syllabus as well as the lab Blackboard postings.

Americans with Disabilities Act

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, 128 ECC Building (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation are confidential. <http://studentaffairs.stonybrook.edu/dss/>

Academic Integrity

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong as is submitting the same paper in more than one course without permission of the instructors. Faculty are required to report any suspected instances of academic dishonesty, as per the SHTM Academic Policies and Procedures. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity

including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

- Since this is an HAN course, you will be held accountable to the academic dishonesty policies and procedures of SHTM. Please review the policies posted at <http://healthtechnology.stonybrookmedicine.edu/sites/default/files/Academic%20Standing%20Policies%20and%20Procedures%20Rev%281%29.pdf>

Blackboard

Blackboard is a web-based course management system. Students will find all course documents and announcements on **Blackboard**. All currently registered students have blackboard user accounts. You will see this course listed when you log into Blackboard. Visit the website to access the class (your classes using blackboard will be listed). You will log in using your Net ID and your Password/your Stony Brook ID number. You should have received instructions at registration as to how to choose and set your Net ID, as this is identification you use to access Solar System as well. You are required to check **Blackboard** each week. While logged into **Blackboard**, students must check their personal information to ensure that the email address is current.

You can access class information on-line at:

<https://blackboard.stonybrook.edu/webapps/login/> If you have used Stony Brook's Blackboard system previously, your login information (Username and Password) has not changed. "The materials in this course available online or via a website link are for the exclusive use of registered students currently enrolled in this course and may not be further distributed. In addition to legal sanctions, violation of these copyright prohibitions may result in University disciplinary action."

Blackboard Technical Support

Blackboard technical issues are supported by the university and help can be obtained by the web at <https://tlt.stonybrook.edu/StudentServices/BbStudents/Pages/default.aspx> , by calling 631-632-9602 or by emailing helpme@ic.sunysb.edu "The materials in this course available online or via a website link are for the exclusive use of registered students currently enrolled in this course and may not be further distributed. In addition to legal sanctions, violation of these copyright prohibitions may result in University disciplinary action."

Critical Management Initiative

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.