**BIOS 3755**

**Human Physiology**

**Georgia Institute of Technology**

Instructors: Young C. Jang, PhD TA: Qi An

IBB 3304,

315 Ferst Dr. NW

(404) 385-3058

Email: [young.jang@gatech.edu](mailto:young.jang@gatech.edu) [anqi@gatech.edu](mailto:vherdman1@gatech.edu)

Office hours: Professor- By appointment only

Class meets: Tues, Thurs, 09:30-10:45

Location: **Boggs** Building, Room **B5**

3 credit hours

Required Text: Human Physiology: An Integrated Approach, 7th ed. 2016: Pearson

Required Software: <http://www.MasteringAandP.com> (comes with book or if you did not purchase a new book, additional $ for Mastering (is included if purchasing the e-text book)

Course ID: **MAPJANG38700**

ISBN at the bookstore or can purchase at [www.mypearsonstore.com](http://www.mypearsonstore.com) or can purchase access direct to Mastering with the e-text.

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| 0321970330 - APPH 3755 - Human Phys: An Integrated Approach **w/ Mastering A&P**, 7e by Silverthorn |
| 0134047184 - APPH 3755 - Human Physiology: An Integrated Approach, (ALC) **Plus Mastering A&P**, 7/E |

Prerequisites: **BIOS 3753 Human Anatomy**

**Course Description:** Human Physiology will use a systems approach to provide a foundation for understanding the function of anatomical structures comprising the human body. Students will explore the functions and adaptations of organ systems with emphasis on the neuromuscular, endocrine, cardiorespiratory, gastrointestinal and urinary systems. The major theme will focus upon homeostatic mechanisms integrating physiological responses (from cell signaling to whole organism) to maintain human health and well-being.

**Student learning objectives:**

1. To gain working knowledge of terminology in medical physiology.
2. To recognize fundamental principles responsible for maintaining normal function of tissues and organ systems of the human body.
3. To describe the relationship between different physiological systems to provide homeostasis for the human body.
4. To connect the basic physiological functions from cell to tissue to organ to organ system which impact human physiology.

**Evaluation:**

1. Mid-term Exam 30%
2. Final Exam 30%
3. Quizzes (highest 2 out of 3, drop lowest score) 25%
4. Homework via Mastering A&P 15%\*\*

**Note**: Make up *exams* will be considered only in the case of an emergency (documentation required) or if prior arrangements have been made. In the case of an emergency, you must contact me within 24 hours and provide documentation of the emergency. If you know you will miss a quiz or exam because of a school sponsored event (e.g. athletic event, plant trip etc.) or important personal issue, you need to contact the instructor at least **1 week prior** in order to make necessary arrangements to complete the missed work. **A missed quiz will serve as the automatic drop.** In most cases, you should complete the work *before* your absence.

**Grading Scale**

Every effort will be taken to provide you with timely and thorough feedback on your performance and if you have any questions, please ask me. Final average grades will be rounded to the nearest whole percentage point. Curving grades is rare and should not be expected. Your final grade will be assigned as a letter grade according to the following scale:

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F 0-59%

**ACADEMIC HONOR CODE**

**Cheating off of another person’s test or quiz is unethical and unacceptable. Cheating off of anyone else’s work is a direct violation of the GT Academic Honor Code, and will be dealt with accordingly.**

**Use of any previous semester course materials is allowed for this course; however, I remind you that while they may serve as examples for you, they are not guidelines for any tests, quizzes, or any other coursework that may be assigned during the semester.**

**I consider the following behaviors to be cheating:**

\*using false excuse to delay taking test/quiz

\*learning what is on a test from someone who has already taken it

\*copying from another student on a test/quiz with or without their knowledge

\*helping someone else cheat on a test/quiz

\*using unauthorized notes on a test/quiz

\*using unauthorized electronic device to obtain information during test/quiz

\*working with others on an assignment when asked for individual work

\*paraphrasing/copying from written or internet source without footnoting it

\*fabricating/falsifying a bibliography

\*turning in work copied from/done by another

\*copying material almost word for word from a written source without citation

\*obtaining paper from term paper mill

\*fabricating or falsifying research data

List adapted from McCabe, Donald. “Cheating among college and university students: North American Perspective,” International Journal for Educational Integrity, 1.1 (2005).

**For any questions involving these or any other Academic Honor Code issues, please consult me or** [**www.honor.gatech.edu**](http://www.honor.gatech.edu)

**Suggestions for getting the most from this class:**

1. You will need to read the text and study the figures in your book to fully understand the material. You are expected to read the chapter **before** class, using the notes to guide you to the material we will cover. Consider this pre-class reading required homework.

1. It is imperative you take notes presented in class.
2. Repetition is key to learning this material, so **read/study the material daily**. Even though you may not be assigned specific homework as follow-up to material covered in class, consider studying the material as your daily homework.

\*\***Additional HOMEWORK will be posted to MASTERINGAandP.com- CHECK the Mastering Calendar Each Class day**

Additional readings may be posted to CANVAS – published research articles on the topic of the week. Be prepared to discuss in class.

**WEEK** **Lecture Topic** **Chapter** **Additional Readings**

**1:** 1/9, 1/11 Introduction to Physiology 1 2 (Ions, Molecules)

Compartmentation: Cells and Tissue 3

**2:** 1/16, 1/18 Membrane Dynamics 5

Communication, Homeostasis 6

**3:** 1/23, 1/25 Endocrine system 7

**4:** 1/30, 2/1 **Quiz 1 (1/30)**

Neurons: Cell & Networks 8

**5:** 2/6, 2/8 Central Nervous System 9

Sensory Physiology 10

**6:** 2/13, 2/15 Efferent: Autonomic and Somatic 11

**Mid-Term (2/15)**

**7:** 2/20, 2/22 Skeletal Muscle 12

**8:** 2/27, 3/1 Smooth and Cardiac Muscle 12

Control of Body Movement 13

**9:** 3/6, 3/8 Cardiovascular Physiology 14

**10:** 3/13, 3/15 Blood Flow and Control of Pressure 15

Blood 16

**Quiz 2 (3/15)**

**------------------SPRING BREAK---------------------**

**11:** 3/27, 3/29 Mechanics of Breathing 17

Gas Exchange and Transport 18

**12:** 4/3, 4/5 Cellular Metabolism 4

Growth & Metabolism 23

**13:** 4/10, 4/12 Renal Physiology 19

Fluid and Electrolyte Balance 20

**Quiz 3 (4/12)**

**14:** 4/17, 4/19 Digestive system 21

Metabolism & Energy Balance 22

**15:** 4/24 Integration: Exercise 25

**Exam period FINAL EXAM (as scheduled in exam week)**