

BIO54G Greensheet : Applied Human Anatomy and Physiology: Levels of Organization	1.5 units
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**Instructor:** Judy Cuff-Alvarado

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**Office & Office Hours:** by appointment OR

- \* Tuesdays: in KC215 from 2:15-3:15 pm 408-864-8640
- Wednesdays: from 8:30-11:00am in Science Resource Center (SC3)  
408-864-8921
- Thursdays: in KC215 from 8:00-9:00am

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**Course Description:** Survey of human anatomy and physiology with emphasis on homeostatic limits of the human body. Topics to be discussed include basic introduction & body organization, chemical basis of life, the cell, its metabolism, tissues and the skin.

Prerequisites: High School Biology or BIO10, 11, 12, 13, 14 or 15. Especially designed for students planning careers in Medical Assisting, Licensed Vocational Nursing, Education, Speech, Home Economics, Psychology, Physical Education and/or recreation. Not open to students with credit in Biology 40A, B or C equivalent.

Advisory: English Writing 100A, and Reading 201 (or Language Arts 200) or English as a Second Language 161-163

One hour lecture, 1.5 hours laboratory, one additional hour to be arranged

**STUDENTS PLEASE NOTE: This is an ONLINE COURSE lasting only six weeks from Monday, Sept. 27 - Thursday, Nov.2, 2017. Students are required to view weekly video lectures online AND take weekly chapter tests online. The FINAL EXAM IS ON CAMPUS in the Science Resource center during operating hours. The final must be taken no later than 3pm on Nov. 2. The best way to contact the instructor is by email.**

**DROP POLICY: Students who do not log onto the course catalyst site by Thursday, Sept. 28 at 5pm will be considered NO SHOWS and will be dropped from the course. It is the student's responsibility to be aware of the college's drop policy. Students who do not take any chapter tests and effectively are "no shows" will receive an F in the course. There are no make-ups for missed online quizzes.**

**Student Learning Outcome:** Define the characteristics of life and demonstrate an understanding of how homeostatic mechanisms are important to survival.

**Course Objectives:**

Upon completion of the course students will be able to:

1. Describe the characteristics and requirements of all life.
2. Recognize the evolution of scientific thought in understanding physiology.
3. Explain how the study of living material depends on the study of chemistry.
4. Investigate the structure and function of the cell membrane, cytoplasmic organelles and the nucleus.
5. List how substances move through cell membranes.
6. Examine the life cycle of the cell.
7. Describe the cell's metabolic reactions to gain energy.
8. Investigate how genetic information controls cellular processes.
9. Compare & contrast the structure and function of the four types of human tissues.
10. Name the layers of the skin and describe the accessory organs.

**Expanded Description:**

1. Describe the characteristics and requirements of all life.
  1. Characteristics humans share with all life forms
  2. Requirements of all life forms
  3. Homeostasis: vital to survival of any species
  4. Levels of Organization and terms derived from Greek and Latin roots.
2. Recognize the evolution of scientific thought in understanding physiology.
  1. Acknowledgement of our earliest ancestors as healers
  2. Knowledge through observation, questioning, and experimentation
  3. Influence of non-Western scientific method and cultural practices.
3. Explain how the study of living material depends on the study of chemistry.
  1. Structure of matter
  2. Chemical reactions: interactions of atoms
  3. Composition of compounds
  4. Common inorganic and organic chemicals in cells
4. Investigate the structure and function of the cell membrane, cytoplasmic organelles and the nucleus.
  1. Characteristics of a composite cell
  2. Correlation of structure and function within the cell
5. List how substances move through cell membranes.
  1. Passive mechanisms
  2. Active mechanisms
  3. Abnormal ion channels in cell membranes of humans and other species resulting disease and disorders.
6. Examine the life cycle of the cell.
  1. Interphase
  2. Mitosis
  3. Cytoplasmic division
  4. Cell differentiation

7. Describe the cell's metabolic reactions to gain energy.
  1. Enzymes, control of metabolic reactions
  2. Release of chemical energy
  3. Metabolic pathways for the organic compounds
  4. Forensic evidence of poisoning during the middle ages, damaging enzyme action, and occurring today in India and Bangladesh.
8. Investigate how genetic information controls cellular processes.
  1. Nucleic acids and protein synthesis
  2. Genetic code and DNA replication, stem cells and clones
  3. Relative minor difference in genetics between ethnic groups
  4. Human Genome Project: genetic map of a single human cell
9. Compare & contrast the structure and function of the four types of human tissues.
  1. Locations of four major tissue types
  2. General characteristics and functions of each tissue type
  3. European Scientist's progress in tissue engineering
10. Name the layers of the skin and describe the accessory organs.
  1. General functions of each layer of the skin
  2. Hair follicles, nails, sweat glands, sebaceous glands
  3. Regulation of body temperature
  4. Healing of Wounds

### Methods of Evaluating Objectives:

Grading Standard For Exams and Final Grade

5 weekly Quizzes @ 30 pts each: 150 points

Laboratory Reports: 45 points

Final Exam 100 points

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**Total Points Possible 295 points**

**90-100%: A**

**80-89%: B**

**66-79%: C**

**50-65%: D**

**<50%: F**

**Extra Credit is available on the course canvas page.** (Up to a possible 15 points). Follow instructions & answer completely. Extra credit must be handed in **prior** to taking the final exam.

Chapter tests are scored immediately online so students can see their score.

Lab reports will be graded at the end of the course. Neither the tests nor the lab reports will be returned to the student.

**Lab Reports:** Complete the specified lab exercise BEFORE completing the lab report. The lab exercise will give you directions on how to do the lab report and may be used to study for the chapter test. Turn in specified lab reports only, no the lab exercises. Be careful to follow all directions on the labs and complete all questions. Label all sketches and drawings as the directions state. Although you will be doing several lab reports, only three will be randomly chosen to be graded in detail. Failure to hand in any weeks assigned lab report will cause a point deduction from the possible 45 point total for lab reports for the course.

Format for Lab Reports:

1. Be legible.
2. Be stapled together with pages in proper order.
3. Follow directions specified. Label drawings as specified. All questions answered.
4. All lab reports must be handed in BEFORE taking the final exam.

**Attendance:** Students will spend a minimum of 5 hours per week watching the video lecture, studying, completing lab assignments, and taking chapter tests. Your attendance and effort significantly influence your ability to learn, enjoy and succeed in this and any course. Students are to sign in and out of lab. The only on campus requirement currently is the final exam. Student activity logs on canvas are monitored for student participation.

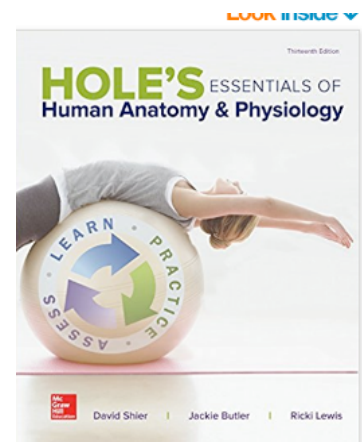
**Essential Student Materials:** Access to video, Scantrons with number 2 pencils, computer access to Instructor's Webpage

**Minimum College Facilities:** Laboratory facilities including microscopes, human tissues slides, anatomical models, computers with interactive capability, headsets for private audio, basic medical equipment for assessment of vision, hearing, reflexes, blood pressure, respiratory capacity, etc.

**Required Texts:**

**1 Required Text and 1 Required Lab Manual:**

- Hole's Essentials of Human Anatomy & Physiology, 13th edition, Publisher McGraw Hill, Authors: Shier, Butler and Lewis ISBN: 978-1-259-27736-8
- Laboratory Manual Hole's Essentials of Human Anatomy & Physiology, 13th Edition, McGraw Hill. Authors: Shier, Butler and Lewis ISBN: 978-1-259-86940-2



**Academic Dishonesty and Plagiarism Policy.** Academic dishonesty includes cheating, fabricating or falsifying information or sources, improper collaboration, submitting the same paper for different classes without permission, and plagiarism. Plagiarism occurs when students deliberately or unintentionally use another person's language, ideas, or materials and present them as their own without properly acknowledging and citing the source. Academic and/or administrative sanctions may be applied in cases of academic dishonesty.

**Academic consequences may include:**

1. Receiving a failing grade on the test, paper or exam
2. Having course grade lowered
3. Receiving a grade of F in the course

**Administrative consequences may include**

1. Being placed on disciplinary probation
2. Being placed on disciplinary suspension
3. Being expelled
4. Students may also be subject to arrest and or heavy fines if the academic dishonesty offense violates state or federal law.

Here is the link to De Anza's Policy on Academic Integrity.  
<http://www.deanza.edu/studenthandbook/academic-integrity.html>

**Note to students with disabilities:**

***If you have a disability related need for reasonable academic accommodations or services in this course, provide (name of Instructor) with a Test Accommodation Verification Form (also known as a TAV form) from Disability Support Services (DSS) or the Educational Diagnostic Center (EDC). Students are expected to give five days notice of the need for accommodations. Students with disabilities can obtain a TAV form from their DSS counselor (864-8753 DSS main number) or EDC advisor (864-8839 )."***