Biology 241 – Human Anatomy & Physiology 1
Gavan M. Albright, MS.
Tacoma Community College

**Instructor:** Gavan M. Albright, MS.

**Biology 241 – Human Anatomy & Physiology 1**

**Course Description:**
This is the first of a two-quarter sequence of human anatomy and physiology. The course covers basic molecular and cell biology, histology, the integumentary system, the skeletal system, the muscular system, the nervous system and the special senses. Laboratory sessions include the study of microscopy, histology, anatomical models, preserved bones and human cadavers.

**Prerequisites:** (completed with a “C” or better):
- Biology 160
- Chemistry 110

**Office Telephone:** (253) 460-4372
When leaving telephone messages speak clearly and slowly. Give your full name, course and telephone number at the beginning of the message. Please leave only 1 message (telephone or e-mail) per 24-hr period per subject.

**E-mail:** galbright@tacomacc.edu

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**Degree Learning Outcomes**
Tacoma Community College has identified six college-wide learning outcomes that form the foundation of our educational emphasis: 1) communication (COM), 2) critical thinking (CRT), 3) responsibility (RSP), 4) information & information technology (IIT), 5) living and working cooperatively (LWC), and 6) core of knowledge (COK).

Course objectives support the College Learning Outcomes.

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**Course Objectives**

- Integrate basic concepts of organic and inorganic chemistry including atomic structure, chemical bonding, inorganic compounds and solutions, and the structure and function of macromolecules with human anatomy and physiology. (CRT)
- Integrate knowledge of the biology of the cell with understanding of how mitosis, DNA structure, replication, transcription, and translation affect human anatomy and physiology. (CRT)
- Explain the important concepts of plasma membrane structure and function and be able to discriminate between various transport processes (diffusion, osmosis, active transport), including the ability to predict the outcomes of the process in a specific application. (CRT, COM)
- Demonstrate hands-on competency of proper light microscopy techniques. (RES, CRT)
• demonstrate proper safety procedures in the laboratory. (RES)
• use a light microscope to recognize, identify, and illustrate epithelial tissue, muscle tissue, connective tissue and nervous tissue based on distinguishing structural characteristics.
• utilize a conceptual knowledge of the human body plan and organization. (CRT)
• hypothesize outcomes of homeostatic imbalances as they apply to systems learned in the course. (CRT)
• describe the major gross, microscopic and cellular components of the integumentary system and interpret the functions of its components in terms of overall homeostatic balance. (CRT, COM)
• classify tissue types, membranes and glands by structure, function and location in the body as well as explain how common changes affect them.
• identify and describe the major components of the skeletal system, including the bones and bone markings of the axial skeleton and the appendicular skeleton. (CRT)
• explain the physiology of the skeletal system, including osteogenesis, growth, repair, movement, and aging including cells and hormones that are involved. (CRT)
• describe the anatomical and functional classifications of joints and be able to name and demonstrate movements of the major joints and how they function. (CRT)
• identify the major muscles and be able to describe in detail the anatomy of a muscle fiber, the details of the sliding filament theory of contraction and principles of whole muscle contraction. (CRT, COM)
• describe the major structures and functions of the central nervous system and the peripheral nervous system including CSF, cranial nerves and reflexes. (CRT, COM)
• explain the details of nerve impulse generation, propagation and transmission across synapses including analysis of neurotransmitter action. (CRT)
• contrast structure and function of ANS divisions and the somatic system including neurotransmitter and receptor details and prediction of the actions of drugs acting at those sites. (COM, CRT)
• identify tissues, bones, bone markings, muscles, brain anatomy, spinal nerves, cranial nerves, eye anatomy and ear anatomy in the laboratory setting. (CRT, RES, COM)
• identify and describe the major gross, microscopic and cellular anatomical components of the eye and ear and explain their functional roles in vision hearing and equilibrium. (CRT)
• describe the physiology of olfaction and gustation. (CRT, COM)
• identify gross anatomical structures on the prosected cadaver. (CRT, RES)
Required Texts


Grading Policy

Evaluation is based upon **cumulative percentage of total points** derived from:
- Lecture Exams (100-200 pts. each)
- Lecture Quizzes (15 pts. each)
- Lab Practical Exams (100-150 pts each)
- Lab Reports (vary pts. each)
- Lab Quizzes (15 pts. each)

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<tr>
<th>Grade Code</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100</td>
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<tr>
<td>B+</td>
<td>88-89</td>
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<tr>
<td>C+</td>
<td>78-79</td>
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<td>D+</td>
<td>68-69</td>
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<tr>
<td>E</td>
<td>0-59</td>
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Exams, Quizzes & Labs

- Plan to take the exams and quizzes when they are given.
  - Questions for the quizzes and exams originate from lecture, lab, and assigned reading.
  - **Missed quizzes may not be taken later** unless previously approved or in acceptable cases of **verifiable** uncontrollable circumstances (illness, etc.).
  - **One missed lecture exam may be made up** during the last week of the semester.
- Lab reports are due the first lab of the week following the period in which the lab is performed (ex. for a section with Monday and Wednesday lab times, lab exercises performed on Monday and Wednesday are due the Monday of the following week).
  - **Late lab reports will not be accepted** unless previously approved or except in acceptable cases of **verifiable** uncontrollable circumstances (illness, etc.).
  - Please turn your lab reports in at the beginning of the lab period.
  - **Staple individual lab reports SEPARATELY.**
  - No photocopies will be accepted.
- Graded lab reports and quizzes will be handed back during lab. Lecture Exams will NOT be returned but if you would like to look over your exam see me during office hours.
Supplementary Materials

- **Required:**
  quiz scantrons (form#2020) and exam scantrons (form#882-E), graph paper.
- **Suggested:**
  Medical Dictionary, Histology/photo atlas, calculator, colored pencils.
- **Cost for all materials and supplies** besides handouts, tests, quizzes, labs, etc. (including printing and copying) are to be born by the student.

Accommodations

**Students with Special Needs:**

Students are responsible for all requirements of the class, but the way they meet these requirements may vary. If you need specific auxiliary aids or services due to a disability, please contact the Access Services office in Building 7 (253) 566-5328. They will require you to present formal, written documentation of your disability from an appropriate professional. When this step has been completed, arrangements will be made for you to receive reasonable auxiliary aids or services. The disability accommodation documentation prepared by Access Services must be given to me before the accommodation is needed so that appropriate arrangements can be made.

Academic Dishonesty

- As stated in the TCC catalog, “Students are expected to be honest and forthright in their academic endeavors. Cheating, plagiarism, fabrication or other forms of academic dishonesty corrupt the learning process and threaten the educational environment for all students.”
- My academic dishonesty policy is as follows:
  - **First offense:** The student will receive an F (0%) for the assignment.
  - **Second offense:** The student will receive an F in the course and the student services will be contacted for further potential disciplinary action.
- The complete Administrative Process for Academic Dishonesty is available on the TCC website at: www.tacomacommunitycollege.com/stuonline/policies/start.htm

Conduct

- **Attendance is required.** Though I do not take roll every day or give attendance points, it is assumed that you will attend all lecture and laboratory periods. If you are absent from class, it is your responsibility to check on announcements made while you were absent.
• Please arrive promptly. Arriving late to class is disruptive to your fellow students. Your instructor reserves the right to restrict entry into the class or lab room 15 minutes after class has begun.
• Please contribute to the learning atmosphere, clean up after yourself, and come prepared to succeed.
• Class participation is expected.
• Only those students are enrolled in this course may be in the classroom or lab room. Please do not bring children, friends, visitors, etc. to class with you.
• During lab, you will perform exercises designed to illustrate some of the principles of Anatomy & Physiology. This may include (but not limited to) working with delicate equipment, chemicals, preserved specimens, dissection equipment, etc. **Always conduct yourself in a safe and appropriate manner during the lab sessions.**
• **Food or Beverages are not permitted in the lab room.** You may have food or drink in the lecture halls as long as it doesn’t become disruptive.
• **Set pagers & cell phones in silent mode before you enter lecture or lab!!!** You will lose 10 points each time your cell phone or pager ringer goes off in class!

**Etiquette for Classroom Dispute Resolution**

If you have questions or concerns about this class or me, please come to talk with me first. If we are unable to resolve your concerns, you may talk next with the Chair of the Natural Sciences Department, Rebecca Sliger, room 15-134 (253) 460-4428. The Chair can assist with information about additional steps, if needed.

This syllabus and schedule may be subject to change in the event of extenuating circumstances. Any changes to assignments or grading will be announced.