

Pellissippi State Community College  
Master Syllabus

**HUMAN ANATOMY & PHYSIOLOGY I**  
**BIOL 2010**

Class Hour: 3  
Laboratory Hours: 3

Credit Hours: 4  
Date Revised: Spring 2017

**Catalog Course Description**

A study of the basic biological chemistry, cellular structure and function (including cellular respiration, protein synthesis and cell division), histology and the integumentary, skeletal, muscular and nervous systems. Course includes three hours of lecture and three hours of laboratory applications each week.

**Prerequisites and/or Co-requisites**

None

**Textbooks(s) and other Reference Material Basic to the Course**

***Required Textbook***

Patton, K.T., & Thibodeau, G.A. (2015). *Anatomy and physiology* (9<sup>th</sup> ed.). Maryland Heights, MO: Mosby. ISBN: 978-0-323-2988-34

New book includes Evolve online study activities

- Buy online from [Elsevier Evolve](#) (use coupon code “92594” for additional discounts and free shipping)
- Binder-ready version: about \$140.00
- Hardback: about \$190
- Rent: about \$17 per semester at [Amazon](#)

***Required Laboratory manual***

Bridges, R. (2015). *Human anatomy and physiology I: Laboratory manual* (4th ed.). Minnetonka, MN: Blue Door Publishing. ISBN: 978-1-59984-629-3

- Hardcover spiral: about \$75

***Optional materials***

Anatomy Coloring Book

**Week/Unit/Topic Basis**

***Unit 1***

Week	Lecture Topic	Lecture Chapter	Lab Chapter
1	Chemistry of Life: Organic Cells and Cell Division	3 & 4 4 & 5	1: Lab Orientation & Safety 2: Body Language 4: Cells
2	Cell Metabolism Review	6 & 7 3-7	6: Tissues & Membranes 7: Integumentary System
3	<b>TEST 1: Chemistry and Cells</b> Body; Homeostasis	3-7 1 & 2	1,2,4,6,7: <b>LAB PRACTICAL 1</b>

Week	Lecture Topic	Lecture Chapter	Lab Chapter
	Tissues	8 & 9	

### *Units 2 and 3*

Week	Lecture Topic	Lecture Chapter	Lab Chapter
4	The Skin & Integument Skeletal Tissue	10 11	8-9: Skeletal System
5	<b>TEST 2: Body, Tissues and Skin</b> Skeletal Tissue	<b>1, 2, 8-10</b> 11	8-10: Skeletal System
6	Skeleton; Joints	12-14	11: Joints 8-11: Review for LP2
7	<b>TEST 3: Skeletal System</b> Muscle Tissues	<b>11-14</b> 15 & 17	<b>LAB PRACTICAL 2: 8-11</b> <b>Plus review</b>

### *Unit 4*

Week	Lecture Topic	Lecture Chapter	Lab Chapter
8	Muscle Tissues	17	12: Muscle Histology 13-14: Gross Muscle Anatomy
9	Muscular System Nervous System Tissues	15-16 18	13-14: Gross Muscle Anatomy 12-14: Review Muscles
10	<b>TEST 4: Muscular System</b> Nervous Signaling The Brain	<b>15-17</b> 19 20	<b>LAB PRACTICAL 3: 12-14</b> <b>Plus review</b>

### *Units 5 and 6*

Week	Lecture Topic	Lecture Chapter	Lab Chapter
11	Brain and Cranial Nerves (continued) Spinal Cord and Nerves	20 & 21 20& 21	15: Nervous Tissues Gross Anatomy of the Nervous 16-17: System & Reflexes
12	Spinal Cord and Nerves (continued) Sensory Basics <b>TEST 5: Nervous System I</b>	20 & 21 23 <b>18-21</b>	18-19: The Senses 15-19: Review for LP4
13	Special Senses Autonomic Nervous System	24 22	<b>LAB PRACTICAL 4: 15-19</b> <b>Plus review</b>
14	<b>TEST 6: Nervous System II</b> <b>Comprehensive Final</b>	<b>22-24</b> <b>review</b> <b>questions</b>	No Labs

### Course Goals

NOTE: Roman numerals after course goals reference General Education Goals of the Natural and Behavioral Science department/program.

This course is an introductory anatomy and physiology course dealing with the terminology and functioning of the human body.

The course will

- A. Know the anatomical terminology used in describing the whole body and selected organ systems (V.3)
- B. Understand the process of Homeostasis (V.4)
- C. Understand the relationships between cells, tissues, organs, systems and the organism (V.4, V.5)
- D. Understand the basic chemistry of the cell and the human body (V.3)
- E. Know the structure and function of cellular components (V.4)
- F. Understand the function of DNA and RNA in cellular processes (V.4)
- G. Know the anatomy (micro- and macro-) and understand the physiology of the following systems: (V.3, V.4, V. 5)
  - Integumentary
  - Skeletal
  - Muscular
  - Nervous
- H. Demonstrate effective, safe and ethical laboratory procedures (V.1)
- I. Use scientific methods to conduct an experiment, analyze anatomical specimens and perform physiological tests (V.1, V.2)
- J. Apply the principles of anatomy and physiology to case study situations (V.4, V.5)
- K. Use medical resources to aid in the analysis of medical data and determination of a diagnosis and treatment of selected health problems (V2,V3,V4)
- L. Function as member of a learning team (V2, V3, V4)

### **Expected Student Learning Outcomes**

NOTE: \* Letters after performance expectations reference the above course goals.

The student will

1. Use correct terminology and correct spelling to describe the human body in terms of regions, planes, sections, directional relationships, tissues, organs and systems (A)
2. Explain the chemical composition of cells and the human body including their elemental, inorganic and organic components (C, D)
3. Describe the anatomy and physiology of human cells (C, D, E, F)
4. Describe the tissue level of anatomical organization and be able to identify and classify tissues (C, G)
5. Explain homeostasis and its significance to normal body functions and be able to identify the components of a homeostatic control system (B,C)
6. Identify the anatomical components studied and explain the physiological mechanisms described in the following systems. Use correct terminology and spelling in the identification of all structures and functions: (B, G, H, I , J)
  - Integumentary System
  - Skeletal System
  - Muscular System
  - Nervous System
  - Special Senses
7. Demonstrate safe and ethical laboratory procedures including the human cadaver (H)
8. Analyze case study situations, consult appropriate medical references and demonstrate critical thinking in the discussion of diagnosis and treatment recommendation for conditions related to the systems studied (G, J, K)

9. Function as an effective team member by participating in small group discussions and contributing to the completion of group assignments and projects (L)

## **Evaluation**

### ***Lecture Evaluation***

The lecture portion of this course contains 825 points (75% of the total grade).

### **Unit Tests and Final Exam**

Each lecture unit is evaluated using a 100-point written test, totaling 600 points. Unit tests are a mix of multiple choice, short answer, and 1-2 essay questions. Some tests may contain diagrams for the student to draw and/or label. A comprehensive final exam worth 50 points is given along with the last unit exam on the final exam date.

**Lecture tests that are missed for a valid reason may be made up at the discretion of the instructor.** Students must notify their instructor as to the reason for missing a test *as soon as possible*. Failure to notify the instructor makes the reason invalid. Make-up tests must be taken within a week of the original test date, are of a different nature, and are generally harder than the regular tests. Without a valid excuse, lecture tests receive a score of zero.

### **Student Engagement Activities**

In order to encourage student engagement with the course materials, instructors create various learning activities. These may include pre-lecture assignments (quizzes, online activities, homework), in-class participation (response systems, discussion points, presentations), critical thinking activities (case studies, journal reviews), and comprehensive assignments. Instructors specify these activities, point values, and due dates within their specific course syllabus.

### ***Laboratory Evaluation***

The laboratory portion of the grade totals 275 points. Students must pass the lab with a 60% average in order to pass the course. **If a student earns less than 60% in lab, they will fail the entire course.**

### **Lab Practicals**

Each laboratory unit is evaluated using a Lab Practical worth 50 points. Lab Practicals consist of short answer questions that require identifying structures and processes explored during lab exercises. Each lab practical covers material for that unit and up to 10 points of comprehensive material.

If a student must miss a lab practical due to circumstances beyond their control, they may be able to take a make-up lab practical. **A student must notify their regular lab instructor prior to or on the day of their absence, provide a sufficient reason for their absence, and request a make-up.** Most commonly, the make-up is given during another regular lab session, but it must be completed within 1 week of the original test date. Students who are unable to complete lab practicals within a reasonable amount of time and who are otherwise passing the course, may receive an incomplete for the semester.

### **Weekly Lab Preparation Grades**

There are weekly pre-lab activities within the lab manual, which are spot-checked and total 35 points, and there are weekly quizzes and/or homework, totaling 40 points. Quizzes and homework consist of short answer/identification questions and may cover

new or review material. Lab instructors reserve the right to use lab manual checks as quiz grades and quiz grades in lieu of lab manual checks. Instructors conduct sufficient lab manual checks and quizzes so that the lowest several grades can be dropped.

### Lab Attendance

Students should attend the lab that they are registered for. In emergency circumstances, students may attend a different lab section as a make-up. This privilege requires the student to notify both lab instructors involved by email prior to attending a different lab or as soon as practical. Students attending make-up labs may not receive credit for lab quizzes or homework turned in to the make-up instructor. The lowest several quiz grades are dropped, so this should not affect the overall grade. **Students are allowed to attend an alternate lab only once per semester.**

### *Other Evaluation*

Other evaluation methods may be arranged at the instructor's discretion.

### *Grading Scale*

Point distribution: 1100 total points

<b>Lecture Portion</b>	<b>Point Value</b>
Test 1	100
Test 2	100
Test 3	100
Test 4	100
Test 5	100
Test 6	100
Final Exam	50
Student Engagement Activities	175
<b>Lecture Points Subtotal</b>	<b>825</b>

<b>Laboratory Portion</b>	<b>Point Value</b>
Lab Practical 1	50
Lab Practical 2	50
Lab Practical 3	50
Lab Practical 4	50
Lab Manual/Pre-lab	35
Weekly Quizzes	40
<b>Laboratory Points Subtotal</b>	<b>275</b>

Letter grades are determined as follows:

<b>Letter Grade</b>	<b>Percentage</b>	<b>Points</b>
A	90% and above	990 or more
B <sup>+</sup>	87-89%	957-989
B	80-88%	880-956
C <sup>+</sup>	77-79%	847-879
C	70-77%	770-846
D	60-69%	660-769
F	59% and below	659 or fewer

Notes:

- Students must attain at least 165pts (60%) in lab in order to pass the course.
- Incomplete grades are possible for students missing a few specific assignments due to circumstances beyond their control. Students must request an incomplete grade in writing

(email is acceptable) and must be passing the course. Students missing more than 25% of the assignments are not eligible for incompletes.

## **Policies**

### ***Attendance Policy***

Students are expected to be in class and lab in order to learn and participate in discussions and activities. **Institutional policy mandates that students are present for at least 75% of their scheduled class laboratory meetings to receive credit for the course.**

Instructors will maintain an accurate record of attendance. Students should attend the lab that they are registered for. In emergency circumstances, students may attend a different lab section as a make-up. This privilege requires the student to notify both lab instructors involved by email prior to attending a different lab or as soon as practical. Students attending make-up labs may not receive credit for lab quizzes or homework turned in to the make-up instructor.

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of Academic Affairs.

### ***Academic Dishonesty***

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

Please see the Pellissippi State Policies and Procedures Manual, Policy 04:02:00 Academic/Classroom Conduct and Disciplinary Sanctions for the complete policy.

### ***Students with Disabilities***

Students that need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Disability Services (DS) in order to receive accommodations in this course. [Disability Services](http://www.pstcc.edu/sswd/) (<http://www.pstcc.edu/sswd/>) may be contacted via [Disability Services email](#) or by visiting Alexander 130.

#### Course essentials related to students with disabilities

*Spelling and Terminology*: The course objectives require students to use correct terminology and correct spelling when demonstrating that they recognize body structures and their functions. This course lays the foundational framework for further understanding of the body in various health-related disciplines, such as nursing and radiology technology. Essential to this understanding is the ability to quickly recognize structures and correctly spell the names of those structures on patient records. As part of the test of this essential objective, lab practicals involve timed stations (90 seconds each) where students must recognize a structure, identify it, and record that identity with correct spelling within the allotted time.

Thus, spelling and timely answers are essential learning objectives and are not subject to accommodation. However, after the timed portion of a lab practical, all students are allowed about 10 minutes to spot-check their answers. For this untimed portion, students with disabilities are allowed extra time for their spot-checking. This extra time results in their total lab practical time being equivalent to what is stated on their accommodation plan.

Lecture tests have the same spelling requirements, but since individual questions are not timed, extra time is allotted per the student accommodation plan.

*Due dates*: Out-of-class assignments listed on the syllabus at the beginning of the semester have firm due dates, because they are accessible on the first day of classes. These assignments are designed to complement the information covered in assigned chapters for that week, and therefore, it is in the student's best interest to complete the assignments by the due date given at the beginning of the semester. Time extensions are not made beyond the week the assignment is due. Students should begin working on these assignments immediately, create a plan and timeline to meet their individual learning needs for assignment completion, and manage their time appropriately throughout the semester so that deadlines for these assignments are met. This applies to but is not limited to case studies, chapter quizzes, online learning activities, and other assignments that are assigned and accessible at the beginning of the semester.

#### ***Missed Assignments***

Lecture tests that are missed for a valid reason may be made up at the discretion of the instructor. Students must notify their instructor as to the reason for missing a test ***as soon as possible***. Failure to notify the instructor makes the reason invalid. Make-up tests must be taken within a week of the original test date, are of a different nature, and are generally harder than the regular tests. Lecture tests missed without a valid excuse receive a score of zero.

**If a student must miss a lab practical due to circumstances beyond their control, they may be able to take a make-up lab practical. A student must notify their**

**regular lab instructor prior to or on the day of their absence, provide a sufficient reason for their absence, and request a make-up.**

Most commonly, the make-up is given during another regular lab session, but it must be completed within 1 week of the original test date. An alternate lab practical may be given in the testing center for students with a valid excuse for their absence. Students who are unable to complete lab practicals within a reasonable amount of time and who are otherwise passing the course may receive an incomplete for the semester. Students must request the incomplete in writing.

Missed vocabulary quizzes and case studies are given a zero. The lowest several grades in each category are dropped, so missed items become one of the lowest grades and are dropped.

### ***Laboratory Activities***

Students are expected to arrive at lab fully prepared to participate in all activities. This requires that, as a minimum, the students have read the appropriate lab exercise and completed the pre-lab activities for that week.

Students must dress appropriately for the lab to minimize the possibility of spreading contamination and the risk of personal injury. Garments that cover the legs are recommended and **open-toed/open-heeled shoes are not allowed**. Students that are not appropriately dressed will not be allowed to enter lab. This may result in an absence for the day and a zero on all of that day's activities. Students must report to their instructor any injuries sustained during lab exercises.

Drinks, food, chewing gum, and tobacco are not allowed in the lab or classroom. Visitors are not allowed in the lab or classroom.

### ***Student Participation in Dissections***

Dissections are an integral part of BIOL 2010 and are, therefore, mandatory. This includes a dissection/observation of a **human cadaver**. All students enrolled in the course are expected to fully participate. However, in consideration of medical, religious, or moral objections of isolated individuals, students wishing to be excused from the actual dissection may petition for a waiver by submitting a written request to the lead instructor. Students who are pregnant should consult their physician regarding their participation in dissection labs. With proper documentation, waivers may be granted and alternate activities may be arranged. Students granted waivers are only excused from the physical dissection itself. They will still attend labs and be responsible for all material presented in lab. All students are required to take the laboratory practicals, which include material from the cadavers.

### ***Academic and Classroom Conduct and Etiquette***

See College Catalog and Policies Manual for general information.

Students in BIOL 2010 are expected to behave in a professional and adult manner at all times. Offensive statements regarding one's race, religion, creed, national origin, physical disability, or mental disability are not appropriate and are not tolerated. Inappropriate language, behavior, or dress are not tolerated. Students who disrupt classes or labs are asked to leave and are counted absent for that day.

All cell phones and personal electronic devices must be turned off during class unless they are being used for instructor-directed activities.



Students should be in their seats and ready to learn at the start of class time. Tardy students should not walk between the instructor and the class; they need to find the first available seat. Students should not disturb class by putting away materials or leaving the class prior to class ending.

Students are expected to do their own work. With any form of valid proof of dishonesty in regard to student work or testing, the instructor may elect from a range of actions, including giving a zero on that particular assignment or failing the student for the entire course.

Plagiarism includes any form of using another person's ideas without giving them credit. Students must cite all references for answers all of their assignment. The instructor will provide access to resources on how to properly cite references.

### ***Students with Medical Conditions***

Students should inform the instructor of any medical condition that may render him/her unable to attend or perform normally in the classroom. These medical conditions include but are not limited to Diabetes, Epilepsy, Asthma, etc. In the event of a medical emergency, it is helpful if the instructor already has some knowledge of the condition so he/she can best assist. Students who are pregnant should consult their physician regarding their participation in dissection labs.

### ***Online Course Enhancement***

This lecture course is enhanced with online material available through the D2L link on the PSCC homepage. The instructor will provide instructions for accessing these materials on the first day of class.

Information available online may include: class notes, test review sheets, vocabulary quizzes, case studies, lab activity guides, pre-lab learning activities, and links to useful sites related to anatomy and physiology.

The college provides ample computer access for students who don't own a computer. Therefore, students are expected to be able to access course materials on a regular basis and are responsible for assignments posted there.

### ***Unplanned College Closure***

In the event of inclement weather or other unforeseen events, the school may close. The [Pellissippi's Inclement Weather Policy](http://www.pstcc.edu/weather.html) (www.pstcc.edu/weather.html) states that the college tries to remain open as long as safely possible. PSCC's decision whether to close is independent of other schools. Therefore, the closing of Knox County Schools does not automatically mean the closing of PSCC. The policy also states:

Sometimes, weather will delay the opening of school, but not close the College. In those instances, there may be an announcement such as "Open one hour late" or "Open at 9 a.m." on the radio or TV. The terminology means the same thing. "One hour late" means one hour after the standard workday begins at 8 a.m. For faculty and students, that means classes beginning before 9 a.m. are canceled, while classes beginning at 9 a.m. or later meet at their usual time.

Lab and other science courses that meet for more than 2 hours have an exception to the general school policy. Labs and lectures that would have been 'in session' meet for whatever time remains of their original schedule. For example, if a BIOL 2010 lab was

scheduled from 8:35 AM to 11:30 AM, and the school opened 2 hours late (10:00 AM), then that lab section would meet from 10:00 AM until 11:30 AM.

Students should try to attend all classes and labs whenever the school is open. If the weather makes it unsafe to travel to school, then the student is responsible for notifying their instructor as soon as practical. Students missing labs or lectures are still responsible for material covered in their absence.

In the event that a class meeting (lab or lecture) is cancelled due to any unforeseen event, students should continue to follow their syllabus and read, study, and complete assignments as if their classes were still meeting. Students should be able to learn a significant portion of the material on their own. Each course and/or section instructor may choose to adjust assignment due dates and/or test schedules due to missed classes. These changes are announced as soon as practical, generally by posting a notice on the online course site. If the college is closed for an extended period of time, the instructor will make adjustments to course requirements as needed and will post those changes online. These changes may include placing certain tests online, combining lab activities, canceling certain course requirements, or creating alternate assignments (including the use of online lab activities).