Instructor: William Allen, MD  
Telephone: 479 – 200 – 1630  
Email: wallenmd@gmail.com  
Office: Main Campus Science Bldg  
Office hours: as mutually arranged

Catalog Description: BIOL 1411 Structure and Function of the Human Body  
4 credit hours (3 hours lecture, 2 hours lab)  
This course is a one semester survey of the twelve organ systems of the human body and how they work together to maintain homeostasis. Prior knowledge of general cellular biology is expected. This course is designed for allied health and non-majors and may not be used as credit for, or be taken after successful completion of, BIOL 1402 or BIOL 1403.

Student Email Policy: Pulaski Technical College provides each currently enrolled student an electronic mailbox (email). This electronic mailbox is used as an official means of communication between Pulaski Technical College and the enrolled student. Each currently enrolled student will monitor and read messages sent to the mailbox address in a timely fashion. Use if this electronic mailbox is governed by the Pulaski Technical College Code of Computing Practices. Email correspondence from personal email accounts will not receive a response.

Course Resources:


Online Supplement: McGraw-Hill Connect Account  
(http://connect.mcgraw-hill.com)
Course Objectives and Course Content:
Upon completion of this course, the student should be able to:

Define anatomy, physiology and homeostasis and describe the location of structures in the human body using anatomical terms of direction and regions.

List the levels of organization of the human body; at the cellular level: describe cell organelles and explain their functions, compare methods of transport across a cell membrane, describe the process of mitosis; at the tissue level: describe the four classifications of tissues; at the organ level: identify the human body systems and their major organs.

Explain how the layers of the skin work together to carry out the various functions of the integumentary system. Use medical terminology related to the integumentary system.

Compare and contrast the anatomy of compact and spongy bone, describe bone formation, remodeling and repair, summarize the functions of the skeletal system, and use medical terminology related to the skeletal system.

Describe the structural components of a skeletal muscle, describe a muscle contraction at the molecular level, summarize the functions of the muscle system, and use appropriate medical terminology.

Describe the anatomy of a neuron, describe major landmarks of the brain and state their functions, compare and contrast the functions of the nervous system divisions, explain the pathway for a sensory message sent to the brain to be processed as a motor response and know related medical terminology.

Describe in appropriate medical terms the sensory pathway for touch/pain, taste, smell, hearing, equilibrium and vision.

List the major hormones along with their target and actions.

Identify the components of blood, the basis of blood typing and the mechanisms for hemostasis.

Identify chambers, valves and other features of the heart, trace blood flow through the heart, describe the events of the cardiac cycle, explain the factors that govern cardiac output and blood pressure.

Explain lymph flow, identify lymphoid tissues and organs and explain their function.

Trace the flow of air through the respiratory system, explain the mechanics of gas transport and regulation of breathing.

Describe the digestive anatomy and explain the physiology of mechanical or chemical digestion in each organ.

Describe the anatomy of kidney and nephron, describe filtration, reabsorption and secretion, explain how urine volume and concentration is regulated.

Describe male and female sex organs and their functions, explain hormonal control of reproductive systems.
Attendance Policy:

Attendance is checked at each class meeting. If you are not on time, make sure you let me know you have come to class. If you miss 6 consecutive lectures or 4 labs or 25% of the total meetings, you are likely to be dropped from the class.

If you miss the maximum number and/or percentage of absences allowed in class and/or lab after the posted drop date, your final grade will be lowered one letter grade.

The course covers a great deal of material at each meeting. This is true of all science courses. Missing even one class will be detrimental to your understanding. Concepts of physiology are often counter-intuitive. For this reason, it is better to listen to these concepts being explained, than to read the book at home and try to figure them out.

YOU ARE ADVISED THAT Agencies granting financial assistance may be notified of the violation of the attendance policy by students receiving financial aid.

Classroom Policies

Pulaski Technical College Student Handbook rules and regulations will be enforced at all times. Students will conduct themselves in a manner that is conducive to learning for themselves and their fellow students.

Children are not allowed in class.

Drinks and snacks are allowed in class (not lab). This discretion will be allowed only so long as students clean up after themselves.

The use of cell phones and other electronic devices is prohibited in class. During tests, no cell phones or other electronic devices are permitted on desktops.

Missed assignments (not tests) may be made up with a penalty of one point per class day late. They must be delivered to the instructor (not to the office, not to the instructor’s mailbox).

Lecture and lab tests may not be made up – see Evaluation.

Because of Federal Policy on Student Privacy, no grades or other scores will be given over the phone or by email or to the student’s representative.

No food, gum or drinks are allowed in lab.

OSHA regulations will be observed at all times, including codes for dress: close-toed shoes, long pants (or skirts for religious reasons only).

At the end of each and every lab period you will return all items used to the appropriate storage area and to clean your work area.

Properly dispose of waste as instructed.

Failure to comply with lab policies, OSHA regulations, the Biological Laboratory Safety Rules and Agreement, and/or other instructions will result in not being allowed to participate in the lab activities.

Grading Scale:  

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<th>Percentage</th>
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<tr>
<td>90 – 100 %</td>
<td>A</td>
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<td>80 – 89 %</td>
<td>B</td>
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<tr>
<td>70 – 79 %</td>
<td>C</td>
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<tr>
<td>60 – 69 %</td>
<td>D</td>
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<tr>
<td>Below 60 %</td>
<td>F</td>
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Evaluation: There will be eleven lecture tests (including the final), each of which is worth 100
points. There will be four lab quizzes, each worth 50 points. The total points for the semester will be 1350 points. There are no extra credits. No test score will be dropped. No tests may be made up. If you miss a test and have an excused absence, you will be given a score that is the average of your other test scores. If you miss a second test, you will be given a score of 0 for that test. All students are required to take a final, comprehensive exam.

Academic Integrity: It is expected that all students will conduct themselves in a manner appropriate to the college experience. Academic integrity is a vital component of collegiate behavior. The student handbook states: “The gaining of knowledge and the practice of honesty go hand–in–hand.” The handbook also states, “The responsibility and authority of initiating discipline arising from violations of the rules against dishonesty during the process of the course are vested in the instructor of that course.” The complete Academic Integrity Policy can be found in the PTC Student Handbook.

Accommodation Policy
Services for students with disabilities: Pulaski Technical College is committed to fulfilling all Federal requirements as stated in the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Accommodations are available to students who have documented disabilities. Students who request accommodations must register with the Coordinator of Disability Services in Counseling Services (501-812-2220 or www.pulaskitech.edu) prior to the semester of planned enrollment, and must provide recent documentation of medical, educational and/or psychological records.

Students who need accommodations should inform the instructor at the beginning of the course. Accommodations will only be provided if the instructor receives a letter of approved accommodations from the Coordinator of Disability Services. Failure to provide sufficient notification may result in a delay of services.

If you are a student with a disability and you need academic accommodations, please contact Disability Services at 501-812-2738. All academic accommodations must be arranged through Disability Services.

Course Evaluations
Students may be asked to evaluate their instructor and course near the end of the semester. These student evaluations are very important to the improvement in the quality of instruction and course materials. All results are anonymous and shared with the faculty only after the semester is over and grades have been posted.

Information Literacy
Pulaski Technical College is committed to the Information Literacy Competency Standards for Higher Education as established by the Association of College and Research Libraries and endorsed by the National Forum on Information Literacy. Therefore, all courses incorporate an information literacy component so that, by
graduation, all students will be able to recognize the need for information, then locate, evaluate, synthesize and communicate information in an ethical manner. Information literacy encompasses critical thinking, research, media, technology, health, business and literacy skills to produce life-long learners who can make informed decisions in the workplace and in their personal lives. Pursuant to this end, you will from time to time be sent to the internet or library for exercises in acquiring knowledge outside the scope of your textbook.

New Student Philosophy Statement
Pulaski Technical College is committed to the academic, personal and professional development of its students. The quality of the new student experience is critical to the achievement of the college's mission and lays the foundation upon which future educational successes will be built. This commitment obligates the PTC community to cooperatively and intentionally structure programs, activities and services to promote the success of new students.

Schedule of Classes
The following calendar of class activities should be viewed as a best guess. Changes in activities, though unlikely, may be made. All changes will be announced - in class and barring emergencies - at least one class period in advance. It is the student's responsibility to keep informed of these changes.

01/20 Syllabus, Terminology
01/22 Organization (Chemistry), ch 2
01/22 Lab – lab safety
01/25 Chemistry, ch 2
01/27 Cells, ch 2
01/29 Cell Membranes, ch 2
01/29 Lab – Genetic Disorders
02/01 Genetics, ch 2
02/03 Metabolism, ch 2
02/05 Test 1
02/05 Lab – Tissues
02/08 Tissues, ch 2
02/10 Skin, ch 3
02/12 Bone, ch 4
02/12 Lab – Test 2
02/15 Joints, ch 4
02/17 Muscle, ch 5
02/19 Muscle, ch 5
02/19 Lab – Test 3
02/22 Nerves, ch 6
02/24 Spinal Cord, ch 6
02/26 Brain, ch 6
02/26 Lab – Brain Anatomy
02/29 Senses, ch 7
03/02 Senses, ch 7
03/04 Test 4
03/04 Lab – Skeletal I
03/07 Endocrine, ch 8
03/09 Blood, ch 9
03/11 Immunity, ch 11
03/11 Lab – Skeletal II
03/14 Test 5
03/16 Heart, ch 10
03/18 Vessels, ch 10
03/18 Lab – Heart Anatomy
03/21 to 03/25 Spring Break
03/28 Circulation, ch 10
03/30 Study
04/01 Test 6
04/01 Lab – Skeletal III
04/04 Respiratory, ch 12
04/06 Respiratory, ch 12
04/08 Test 7
04/08 Lab – Lungs
04/11 Kidney, ch 14
04/13 Renal Function, ch 14
04/15 Acid – Base, ch 14
04/15 Lab – Kidney
04/18 Test 8
04/20 GI, ch 13
04/22 GI, ch 13
04/22 Lab – Skeletal IV
04/25 Metabolism, ch 13
04/27 Test 9
04/29 Male Reproductive, ch 15
04/29 Lab – Fetal Pig
05/02 Female Reproductive, ch 16
05/04 Development, ch 16
05/06 Test 10
05/06 Lab Final
05/09 Finals Week Begins