

**Human Anatomy and Physiology Laboratory Syllabus**  
**Biology 231 Lab**  
**Summer 2018**

**Instructor:** Varies

**Office:** Varies

Office Hours: by appointment

Email: [Will be provided during lab](#)

Emails will be answered between 8:00-5:00 on weekdays. While emails *may* be answered at other times, 24/7 access should not be expected. All emails **MUST** include your name and section number in either the subject line or message.

**Meeting Times:** Monday- depends on lab section

**Building and Room:** Snell Hall Room 3103

**Pre-requisites:** Biology 131 with a “C” or better

**Required Materials:**

**For lecture in Biol 131 and Biol 231:** Saladin, Kenneth S. 2015. Anatomy & Physiology: The unity of form and function. 8<sup>th</sup> edition. McGraw-Hill. ISBN 9780073403717

**For lab:** Martin, Terry, Laboratory Manual for Human Anatomy and Physiology, 3<sup>rd</sup> edition. McGraw Hill ISBN: 978-259-29885-3.

**Ability to use technology:** The ability to use technology is required. As a future professional, you will need to be able to use technology in a variety of ways in your job. Many workplaces are becoming paperless and depend on the use of technology. This lab will be mainly paperless. Hand-outs, lab exercises, homework, quizzes and exams will be administered via Blackboard using electronic devices such as ipads. You **MUST** be able to use this type of technology to access materials in this course. If you choose to print materials and bring them to lab, you may, but paper copies will **NOT** be provided. The use of ipads and iPhones to photograph models created in lab is permitted, but photographing or capturing exams or quizzes in any way is considered cheating and will result in an “F” for the course and a letter stating your attempt at cheating sent to your Department Chair.

**READ BEFORE PURCHASING TEXT/MATERIALS:**

The Biology Department at WKU has worked over the past year to develop a new model for textbook adoption. In order to save you some money, maximize your effective use of your textbook, increase learning and evaluate the best ways of teaching you difficult topics, we’ve entered into a partnership with McGraw-Hill publishers.

**By enrolling in this course, you agree to purchase the digital materials associated with this course.** These materials include 12-month access to Connect, LearnSmart or LabSmart where appropriate, a downloadable e-copy of the textbook which is yours to keep, and the option to print a gray-scale copy of your textbook at greatly reduced cost. If you want a printed copy, that’s about \$25, but you must order that through the WKU Store during the first week of class. In order to make these savings available to you, WKU must institutionalize the purchasing process. As a result, **about two weeks into the semester, you will be billed the cost of the materials for the course.** The nice thing about this is that you will have access to all the course materials from day one, without doing a thing! If you choose to drop the course during the regular add-drop period, you won’t be charged for the book. You should note that for this course, **you WILL be charged for the digital materials.** Do **NOT** buy a copy of the book from online or local vendors. **ONLY** the digital format will be used in this course.

**Goals:** The general goals of this course are:

*Students will have an understanding of:*

1. the relationship between form and function in the human body
2. the mechanisms for maintenance of homeostasis in the human body
3. the hierarchy of organization of the human body
4. The inter-relatedness of body systems
5. the use of models to demonstrate anatomy and physiology
6. how anatomy and physiology is used in real-life settings

**Objectives:**

*Students will be able to:*

1. Describe the form and function of basic cells, tissues and organs in the human body
2. Explain the anatomy and physiology of major systems such as the nervous system, circulatory system, urinary system etc.
3. Differentiate between different cellular structures on electron micrographs and microscope slides.
4. Recognize specific types of glandular tissues.
5. Illustrate mitosis and meiosis and explain the events in each and differences.
6. Understand the relationship between DNA processes and expressed phenotypes
7. Point out the role of lymphatics in the body and model them on the Maniken.
8. Experiment with different ingested substances on urine composition (volume, pH, etc.).
9. Analyze an ECG and compare it with the events of heart contraction.
10. Perform and use a blood typing exercise to determine the possible paternity of a child
11. Calculate, determine and explain a hematocrit.
12. Identify blood cell types.
13. Relate environmental conditions to breathing and the structures of the respiratory system.
14. Model and explain the major organs of the digestive system.

**Topics Covered:**

- Laboratory Safety
- Cell Ultra Structure and Function
- The Integumentary System: Skin, Glands and Accessory Structures
- The Lymph System
- Urinary System
- Mitosis, Meiosis and Cell Division
- Heart: Anatomy and Physiology
- Blood Structure and Function
- Respiratory System: Pulmonary Ventilation
- The Brain, Cranial Nerves
- Spinal Cord and Spinal Nerves
- Digestive System: Anatomy and Physiology

**Grading:** Your laboratory average will be calculated and then used along with your lecture average to determine your **overall** grade for the course. The laboratory average will represent 40% of your overall course grade (your lecture average will constitute the remaining 60%). This means you will **not** receive a separate grade for the lab at the end of the semester; your lab grade will be included as part of your **overall grade** shown on the lecture side of the course.

You can calculate your overall grade by:

- Taking your lab average and multiplying it by .4
- Taking your lecture average and multiplying it by .6
- Adding these 2 numbers together

### Grading Scale for Lecture/Lab Combination:

A= 90-100%

B=80-89%

C=70-79%

D=60-69%

F= Below 60%

**\*\*Remember:** Grades are not given. The Instructors simply record the grade that you have earned.

### Tentative Assessment Table:

The due dates for all homework assignments, quizzes and exams are clearly provided under “Course Schedule” tab in Blackboard. There will be NO EXTENSIONS or MAKEUPS for Homework.

| Type of Assignment                      | Number of Assignments | Points per assignment | Total Points Possible |
|-----------------------------------------|-----------------------|-----------------------|-----------------------|
| Homework<br>*Includes Safety Quiz       | 9                     | varies                | 120                   |
| Attendance/Participation<br>*See Rubric |                       | 5                     | 45                    |
| Test                                    | 2                     | 100                   | 200                   |
| Final Exam                              | 1                     | 100                   | 100                   |
|                                         |                       |                       |                       |
| Total Points                            |                       |                       | 465                   |

### Lab Layout

The A&P lab for 231 is very different than the format for 131 lab.

There are two parts to the laboratory:

1) **Pre-Lab Assignments-** These assignments consist of a video, Lab Instructions background material, e-text reading and homework assignments. **ALL** of these components must be completed **PRIOR TO LAB**. These materials will provide the background and introduction for the lab exercises. Your Instructor will not repeat this information during that lab.

2) **In Lab Tasks:** These tasks will begin with a Case Study. Some case studies will be short, others more involved. During the lab you will integrate the background material you learned in your pre-lab with the activities of the lab to gather data, answer questions and solve problems. Your Instructor will not give a formal introduction for the lab and will be in the lab to serve as a facilitator and to check your understanding of your procedures. He/She is also there to answer any questions you have over your pre-lab work.

### Explanation of Assignments/Quizzes/Exams

- **Videos:** These videos have been produced for you based on the Lab Instructions that are posted in Blackboard. You need to watch these videos and take notes, treating them as if they are in-class mini-lectures. You are responsible for all the material in the videos on your exams.
- **Lab Instructions:** This is a set of information, much like in 131, that boils down the topic for the day into main points. These will be covered in the video and you will need the information in the lab instructions to complete the lab. You are responsible for ALL the information in the lab instructions for the exam.
- **Homework:** Homework assignments are designed to help you learn and practice material that you will need for lab. It is imperative that you know the information BEFORE lab. You can attempt the homework as many times as you wish to practice the material and to improve your grade. However, the homework assignment will go away forever at midnight the night BEFORE your lab meets! There will

be NO MAKEUPS or EXTENSIONS for these assignments! You will have 1 week to complete them which is more than enough time!

**Your first homework assignment will cover laboratory safety and procedures. Failure to complete this assignment will result in you being dropped from the lab.** Although we do not use many hazardous materials, safety is our #1 priority.

Several of your homework assignments will be Concept Virtual Overviews that instruct you about a topic and then allow you to interact electronically with the material. It is important that you pay attention to the narratives and animations and think about the interaction you are having with the material as you do it. Simply clicking in the space to get through it will not help you learn. Some of your homework assignment will actually be simulated labs administered using Ph.I.L.S interactive physiology software. These simulations are very good and allow each individual student to work with a simulation of laboratory equipment and subjects. For these assignments, you will actually do the simulation and then answer the homework questions about the simulation.

- **In-Lab Tasks:** These are the activities that we will be doing in class. Some will involve using your computer to answer questions based on a case study while others will be wet labs where you are conducting experiments. Data will be collected and in some cases turned in. You must participate in all the lab tasks to receive attendance and participation points and to learn the material. You will get out of the lab what you put into it. If you simply go through the motions to check off the activity, you will learn very little and experience has shown that grades reflect this.
- **Attendance and Participation:** Attendance is mandatory for the labs. These are not automatic, but must be earned. You cannot complete lab activities unless you are present. Five points per lab will be awarded to students who attend lab for the entire period, participate in all lab exercises, and clean up their lab area before leaving. Leaving lab early will forfeit attendance points for the day as will failure to clean up your lab space. Lack of participation will also result in loss of attendance points. Please schedule all doctor's appointments, work, advising appointments etc. at a time other than during your lab. Making this lab a priority is key to succeeding in the lab.

WKU **Policies:** <https://www.wku.edu/syllabusinfo/index.php>

- [See Below](#)

- **Rubric Guide for 231 Lab Participation Points**

While there is some subjectivity to the participation points, I have created a rubric to help standardize the way points are awarded.

There are 8 lab weeks (excluding exams) each worth 5 points for a total of 40.

The break down for the points should be:

1.0 point = attendance

2.5 points= participation

1.5 points = cleaning up

|                     | 0 points                                                         | 0.5 points                                                                                    | 1 point                                                                                                               | 2-2.5 points                                                                                                                                   |
|---------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Attendance (1)      | Not present                                                      | Present but late or left early                                                                | Present                                                                                                               | NA                                                                                                                                             |
| Participation (2.5) | Came to lab but did not participate                              | Came to lab but participated minimally<br>-spent time off-task on phone or computer<br>-Slept | Came to lab and somewhat participated but did not fully engage.<br>-spent a little time off-task on phone or computer | Came to lab, participated completely and was engaged the entire time                                                                           |
| Clean up (1.5)      | Did not clean up<br>-This would include students who leave early | Attempted to clean up but did a really bad job of it                                          | Somewhat cleaned up<br>-clay put up but not rolled into balls                                                         | Cleaned up completely<br>-Removed clay from Manikens<br>-Clay rolled into balls on plates<br>-Put bones, materials, papers back in their place |

- **Exams:** These cover material over several lab periods. They may have a practical element that will involve looking at models, pictures or actual specimen and answering questions. All answers may be recorded using ipads or other electronic devices, scan-trons or written answer sheets. These exams will usually take 1 hour to complete. Makeup Exams are only given in **extreme circumstances for university excused absences when permission is given to attend and make up the exam with another lab section** during the same week! They are not permitted for students who just want more time during the week to get ready for the exam or student who oversleep or have to work. These are not university excused absences.

**General Policies:** General policies are simple and based on respect. This involves:

- Attending class on time
- Remaining in the class the entire period until dismissed
- Paying attention in class and taking notes
- Turning off cell phones and beepers
- No excessive talking or inappropriate behavior (reading newspapers, making rude remarks etc.)

**Academic Integrity and Misconduct:** Don't cheat. Cheating is not only disrespectful (violating general policies) but it is also dishonest. Cheating on quizzes, exams or assignments will result in a failing grade for the course and could result in expulsion from the university. It is not worth it. Do your own work.

**Attendance:** Experience has shown that poor attendance in class results in poor grades. You must come to class to maximize all of the resources available to you to learn course material. If you are not in class, you will not know which information is stressed.

**Deadlines:** The University designated deadlines for withdrawal from a class or the university are firm. Credit for the course will not be changed to an audit after the university-designated time due to a poor grade in the class. Please make note of these dates. Dropping the class after the university deadline requires a written explanation by you and signatures from the Instructor, the department head and the dean of Ogden College. These exceptions are only granted in extreme circumstances. So ABIDE by the deadlines!

These deadlines can be found at the following location:

[http://www.wku.edu/registrar/documents/regguide\\_winter\\_spring.pdf](http://www.wku.edu/registrar/documents/regguide_winter_spring.pdf)

### **End of Semester Policies:**

- There is no "extra credit" for the course. Do not ask. Study hard, do well on the tests and quizzes.
- Grades are not completed until final grades are posted in TOPNET, so please do not email and ask if grades are finished.
- The grading scale is posted on this syllabus. If you have an 89.45876, then you are guaranteed at least a B in the course. If grades are not posted in TOPNET, then they are not complete (see above bullet), so please do not email and ask if there is "rounding up". You will know if any adjustments were made when grades are posted on TOPNET. Emails asking about "rounding up" or about what final grades will be until after they are posted in TOPNET will be ignored.
- There is absolutely no "making up" missed homework assignments. Get it done when it is due.

### **Blackboard Entry**

[www.wku.edu](http://www.wku.edu) (choose "Blackboard" from the pull down menu)

### **Family Educational Rights and Privacy Act:**

Due to the Family Educational Rights and Privacy Act (FERPA), if you are 18 years old or older, I cannot discuss your grades, etc. with your parents.

### **Title IX Misconduct/Assault Statement**

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at

<https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf> and

Discrimination and Harassment Policy (#0.2040) at

[https://wku.edu/policies/hr\\_policies/2040\\_discrimination\\_harassment\\_policy.pdf](https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf).

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua

Hayes, 270-745-5121.

Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are “Responsible Employees” of the University and **MUST** report what you share to WKU’s Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU’s Counseling and Testing Center at 270-745-3159.

### **ADA Accommodation Statement**

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at [sarc.connect@wku.edu](mailto:sarc.connect@wku.edu) . Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

**WKU Policies:** <https://www.wku.edu/syllabusinfo/index.php>