

## Course Syllabus

### BIOD 151 – Essential Lab Human Anatomy & Physiology I

4 credits

**Prerequisites:** General biology and chemistry (recommended but not required)

**Instructor:** Renee Correll, DPT

**Facilitators:** Rebekah Stepp, MS, CRNP

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**Contact Info:** Faculty may be contacted through the Portage messaging system

**Course web site address:** [www.portagelearning.com](http://www.portagelearning.com)

**Course meeting times:** BIOD 151 is offered continuously

**Course Description:** Essential Lab Human Anatomy & Physiology I is a systematic integration of the structure and functioning of the cells, tissues, organs and systems of the human body. The laboratory component of this course is delivered using virtual labs and interactive simulations.

**Course Outcomes:** As a result of this course experience a student should be able to:

- Identify and explain the function of all cell organelles
- Explain all types of cellular transport including diffusion, facilitated diffusion, active transport, exocytosis, endocytosis, phagocytosis, and pinocytosis
- Understand basic microscopy
- Understand and correctly use basic anatomical terminology
- Understand the anatomy and physiology of the respiratory system
- Understand the anatomy and physiology of the digestive system
- Understand the anatomy and physiology of the skeletal and muscular systems
- Understand the anatomy and physiology of the endocrine system
- Understand the anatomy and physiology of the integumentary system

**Lab Outcomes:** As a result of this laboratory experience, students should be able to:

- Practice safe procedures within a laboratory
- Identify basic components of a light microscope
- Understand and demonstrate anatomical position
- Differentiate between types of epithelial tissue and describe their function
- Differentiate between types of connective tissue and describe their function
- Identify anatomical structures of the respiratory system
- Understand pulmonary function testing and basic spirometry
- Identify anatomical structures of the digestive system and their function
- Identify all major bones within the axial and appendicular skeleton and understand the function of bone
- Identify all major muscles/muscle groups within the axial and appendicular divisions and understand their function as well as nervous innervation

Each of these BIOD 151 student learning outcomes is measured:

- Directly by:
- (1) module application problems (with instructor feedback)
  - (2) exams
  - (3) lab reports and lab exams
  - (4) comparison of pre-course / final exam results

Indirectly by an end of course student-completed evaluation survey

**Course Delivery:** This course is asynchronously delivered online and is composed of 40 - 50 hours of reviewed module assignments with instructor feedback, 10 contact hours of secure online module exams, 15 – 20 hours of observation of demonstration labs and maintenance of a lab notebook, and 8 hours of lab exams.

It is the policy for all Portage Learning courses that only one exam be completed each day. Research on best practices in learning psychology indicates that time is needed to process material for optimal learning. This means that once an exam has been completed, the next exam will not unlock until the following day. Please plan your time accordingly. If you have a legitimate need for an exception to this policy, please contact your instructor.

**Required Computer Accessories:** It is recommended that students use a desktop or laptop computer, PC or Mac, when taking the course. Some tablet computers are compatible with the course, but not all features are available for all tablet computers. The latest full version of Firefox is required for the optimal operation of the Portage Learning Management System. In addition, you must have the latest full version of Adobe Flash Player installed as a plug-in in order to view any of the videos on the site. We highly recommend using a high-speed Internet connection to view the video lectures and labs. You may experience significant difficulties viewing the videos using a dial-up connection.

**Required readings, lectures and assignments:** Portage courses do not use paper textbooks. Students are required to read the online lesson modules written by the course author which contain the standard information covered in a typical course. Please note the exam questions are based upon the readings.

The practice problems within the modules are not quantitatively part of your final grade, but the module work is a pass/fail component of the course and will be reviewed for completeness by the instructor. These are not an option or a choice; they are required. This means that you must complete all of the review questions within the modules. Be sure to answer all of the problems *in your own words at all times*, since this is an important part of adequate preparation for the exams. After you answer the practice problems, compare your answers to the solutions at the end of the module. If your answers do not match those at the end, attempt to figure out why there is a difference. If you have any questions please contact the instructor via the My Messages tab.

**Required labs and assignments:**

For the laboratory portion of the course, students will observe an experienced lab instructor. It is the responsibility of the student to view each lab video in its entirety and only mark the lab as “done” when it is completed. Do not open all the labs at once; otherwise, they may be reset at the discretion of the instructor. Students are encouraged to keep a lab notebook while watching the videos. The lab notebook, alone, can be used as a resource to the student while taking their lab exam(s). Please note that the use of outside material (i.e. the internet, textbooks, articles, etc.) is not permitted while taking the lab exams. A recommended lab schedule can be found on the home page of each lab; the student should follow this schedule to meet course objectives.

**Grading Rubric:**

7 Module exams = 100 pts. each x 6 =	700 pts.
8 Lab exams = 40 pts. Each x 8 =	320 pts.
<u>Final exam = 120 pts.</u>	<u>120 pts.</u>
Total	1,140 pts.

The current course grade and progress is continuously displayed on the student desktop.

**Grading Scale:**

89.5% - 100% (1020 - 1060 pts)	= A
79.5% - 89.4% (906 - 1019 pts)	= B
69.5% - 79.4% (792 - 905 pts)	= C
59.5% - 69.4% (678- 791 pts)	= D
<59.4% (<677 pts)	= F

## **Module & Lab Topics**

- Module 1: In this module students will be introduced to the general function of each body system. In addition, basic anatomical terminology is covered including directional terminology and anatomical planes. Content also includes coverage of cell metabolism. This module will also introduce the structure of eukaryotic cells including an in-depth description of the cell membrane as well as cell organelles and their function.
- Module 2: In this module, students will receive an overview of the anatomy of the respiratory system including histology of the respiratory tract as well as specialized cells. Students will cover detailed physiology of all aspects of respiration including breathing, internal/external respiration, and aerobic cellular respiration. Practical application is provided through the overview of common pathology of the respiratory system.
- Module 3: In this module, students will receive an overview of the anatomy of the entire GI tract. Content covers the physiology of mechanical and chemical digestion throughout the GI tract as well as the role digestion plays in the body's ability to produce energy.
- Module 4: In this module, students will be introduced to the skeletal system. Content includes a comprehensive anatomical overview of types of bones and joints. Students will be introduced to all major bones, ligaments, and joints throughout the body. This module also includes a physiological overview of bone development and common pathology of the skeletal system.
- Module 5: In this module, students will be introduced to the muscular system. Content includes a comprehensive anatomical overview of major muscle groups throughout the body, including origin, action, insertion, and nervous innervation. This module also includes a physiological overview of muscle contraction.
- Module 6: In this module, students will be introduced to the endocrine system. Content includes an anatomical summary of all endocrine glands and the hormones that they produce. Students will learn the physiological effects of hormones on the organs that they target.
- Module 7: In this module, students will be introduced to the integumentary system. Content includes an anatomical summary of the skin, hair, and nails. Students will learn the physiological effects of tissue repair.
- Lab 1: In this lab students will be introduced to anatomical terminology. They will also learn lab safety and basic identification of the parts of a light microscope.

- Lab 2: In this lab students will learn the histology of epithelial tissue. Content includes in-depth discussion of the composition and structure of all types of epithelial tissue as well as practical application of where each can be found within the body.
- Lab 3: In this lab students will learn the histology of connective tissue. Content includes in-depth discussion of the composition and structure of all types of connective tissue as well as practical application of where each can be found within the body.
- Lab 4: In this lab students will cover the general anatomy of the respiratory system. They will learn the difference between restrictive and obstructive lung disorders and examples of each. Common pulmonary function tests will be covered in-depth as well as a demonstration in spirometry.
- Lab 5: In this lab students will cover the anatomy and physiology of the digestive system. This includes all major portions of the GI tract as well as accessory organs. Content also includes practical application through discussion of common pathology of the GI tract.
- Lab 6: In this lab students will cover a comprehensive anatomical overview of the axial and appendicular skeleton. Major bones in each division are presented.
- Lab 7: In this lab students will cover a comprehensive anatomical overview of the axial musculature. Major muscle groups are presented including origin, insertion, action, and nervous innervation for each.
- Lab 8: In this lab students will cover a comprehensive anatomical overview of the appendicular musculature. Major muscle groups are presented including origin, insertion, action, and nervous innervation for each.

**Holidays:**

During the following holidays, all administrative and instructional functions are suspended, including the grading of exams and issuance of transcripts.

New Year's Day	Easter
Memorial Day	Independence Day
Labor Day	Thanksgiving weekend
Christmas Break	

The schedule of holidays for the current calendar year may be found under the Student Services menu at [www.portagelearning.com](http://www.portagelearning.com)

**Suggested Timed Course Schedule** (to complete the course within a typical college semester)

All Portage courses are offered asynchronously with no required schedule to better fit the normal routine of adult students, but the schedule below is suggested to allow a student to complete the course within a typical college semester. Despite this suggestion, the students may feel free to complete the course at their desired pace and on a schedule determined by them.

<u>Time Period</u>	<u>Assignments</u>	<u>Subject Matter</u>
Days 1-14 (2 weeks)	Module 1, Exam 1, in conjunction with Lab 1 and Lab Exam 1	Overview of major body systems, anatomical terminology and microscopy
Days 15-28 (2 weeks)	Module 2, Exam 2, in conjunction with Lab 4 and Lab Exam 4	Anatomical and physiological overview of the respiratory system
Days 29-43 (2 weeks)	Module 3, Exam 3, in conjunction with Lab 5 and Lab Exam 5	Anatomical and physiological overview of the digestive system
Days 44-58 (2 weeks)	Module 4, Exam 4, in conjunction with Lab 6 and Lab Exam 6	Anatomical and physiological overview of the skeletal system
Days 59-73 (2 weeks)	Module 5, Exam 5, in conjunction with Labs 7 & 8 and Lab Exams 7 & 8	Anatomical and physiological overview of the muscular system
Days 74-88 (2 weeks)	Module 6, Exam 6	Anatomical and physiological overview of the endocrine system
Days 89-103 (2 weeks)	Module 7, Exam 7, in conjunction with Labs 2 & 3 and Lab Exams 2 & 3	Anatomical and physiological overview of the integumentary system
Days 103-108	Final Exam	Based upon module material

**Suggested External References:** If the student desires to consult a reference for additional information, the following textbooks are recommended as providing complete treatment of the course subject matter.

Frank H. Netter, MD, **Atlas of Human Anatomy**, Saunders

Richard Drake PhD FAAA, **Gray's Anatomy for Students**, Churchill Livingstone

John E. Hall, **Guyton and Hall Textbook of Medical Physiology**, Saunders

**Learning Support Services:**

Each student should be sure to take advantage of and use the following learning support services which are provided to increase student academic performance:

**Messaging system** which provides individual instructor/student interaction

**Tech support** which is available by submitting a help ticket through the student dashboard

### **Accommodations for Students with Learning Disabilities:**

Students with documented learning disabilities may receive accommodations in the form of an extended time limit on exams, when applicable. To receive the accommodations, the student should furnish documentation of the learning disability at the time of registration, if possible. Scan and e-mail the documentation to [studentservices@portagelearning.com](mailto:studentservices@portagelearning.com). Upon receipt of the learning disability documentation, Portage staff will provide the student with instructions for a variation of the course containing exams with extended time limits. This accommodation does not alter the content of any assignments/exams, change what the exam is intended to measure or otherwise impact the outcomes of objectives of the course.

### **One-on-one Instruction**

Each student is assigned to his/her own instructor. Personalized questions are addressed via the student dashboard messaging system.

Online learning presents an opportunity for flexibility; however, a discipline to maintain connection to the course is required; therefore, communication is essential to successful learning. Check your messages daily. Instructors are checking messages daily Monday-Friday to be sure to answer any questions that may arise from you. It is important that you do the same so you do not miss any pertinent information from us.

**Code of Conduct:** Students are expected to conduct themselves in a way that supports learning and teaching and promotes an atmosphere of civility and respect in their interactions with others. Verbal and written aggression, abuse, or misconduct is prohibited and may be grounds for immediate dismissal from the program.

This is a classroom; therefore, instructors have the academic freedom to set forth policy for their respective class. Instructors send a welcome e-mail detailing the policy of their class, which students are required to read prior to beginning the course.

**Academic Integrity** is a serious matter. In the educational context, any dishonesty violates freedom and trust, which are essential for effective learning. Dishonesty limits a student's ability to reach his or her potential. Portage places a high value on honest independent work. In a distance learning situation, we depend on the student's desire to succeed in the program he or she is entering. It is in a student's own best interests not to cheat on an exam, as this would compromise the student's preparation for future work. It is required of each student to take exams without consulting course materials or study aids including another person, the lesson pages, printed materials, or the Internet. To this end, your instructor will be alert to any indications that a student may be violating this principle. It will be necessary to show all your work on exams. When the nature of the course does not require numerical or symbolic determination (perhaps instead just requires recitation of learned descriptions), our experienced staff is able to detect the unauthorized

consultation of study aids when answering exam questions. A violation of the academic integrity policy may result in a score of zero on the exam and possible expulsion from the course, at the discretion of the instructor with consultation with an administrative-instructional committee.

Review the Student Handbook for more specifics. If you have any questions regarding the academic integrity policy, please consult your instructor **prior** to taking module exam one.

**Grievances:** If for any reason a student has a complaint about the course work or the instructor, the student is advised to first consult the instructor, who will be willing to listen and consider your concern. However, if you don't feel you have received a satisfactory reply, you are encouraged to contact the Academic Dean of Portage Learning for further consideration of your complaint. The formal grievances process must be initiated via written communication. If desired, please file a written grievance to [academics@portagelearning.com](mailto:academics@portagelearning.com) to initiate the process.

**Remediation:**

At Portage Learning we allow a "one-time" only opportunity to re-take an alternate version of **one** module exam on which a student has earned a grade lower than 70%. This option must be exercised before the final exam is started. If an exam is retaken, the original exam grade will be erased and the new exam grade will become a permanent part of the course grade. However, before scheduling and attempting this retest, the student must resolve the questions they have regarding the material by reviewing both the old exam and the lesson module material. Once ready to attempt the retest of the exam they must contact their instructor to request that the exam be reset for the retest. Remember, any module retest must be requested and completed **before** the final exam is opened.