Course Syllabus
BIOD 152 – Essential Lab Human Anatomy & Physiology II
4 credits

Prerequisites: BIOD 151 – Essential Lab Human Anatomy & Physiology I or equivalent
Instructor: Renee Correll, DPT
Facilitators: Rebekah Stepp, MS, CRNP
Crista Bush, MOT, OTR/L
Jerrod A. Poe, Ph.D.
Tammie Kephart, MS, RDN, LDN
Kelly Straley, CRNP

Contact Info: Faculty may be contacted through the Portage messaging system
Course web site address: www.portagelearning.com
Course meeting times: BIOD 152 is offered continuously

Course Description: Essential Lab Human Anatomy & Physiology II 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:
• Understand the anatomy and physiology of the central and peripheral nervous systems as well as the special senses
• Understand the anatomy and physiology of the circulatory system
• Understand the anatomy and physiology of the male and female reproductive systems
• Understand the anatomy and physiology of the urinary system
• Understand cell division including mitosis and meiosis
• Understand human genetics and heredity
• Understand in detail the physiology of water balance, electrolyte balance, and acid-base balance

Lab Outcomes: As a result of this laboratory experience, students should be able to:
• Identify major anatomical structures of the central and peripheral nervous systems and understand their function
• Identify the main anatomical structures of the eye and ear and understand the physiologic processes of hearing and sight
• Identify the main anatomical structures of the heart and vessels and understand blood flow through the heart, systemic, and pulmonary circuits
• Understand blood typing
• Identify the main anatomical structures of the male and female reproductive systems and understand the physiology of reproduction
• Identify the main anatomical structures of the urinary system and demonstrate understanding of urinalysis

Each of these BIOD 152 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, 9 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.

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. Be sure to answer all of the problems 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 or call the help line at 1-888-724-3590 x2.

Grading Rubric:
6 Module exams = 100 pts. each x 6 = 600 pts.
8 Lab exams = 30 pts. Each x 8 = 240 pts.
Final exam = 120 pts.
Total 960 pts.

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

Grading Scale:
89.5% - 100% (860 - 960 pts) = A
79.5% - 89.4% (764 - 859 pts) = B
69.5% - 79.4% (668 - 763 pts) = C
59.5% - 69.4% (572 - 667 pts) = D
<59.4% (<572 pts) = F

Module & Lab Topics

Module 1: In this module students are introduced to the central and peripheral nervous systems as well as
the autonomic nervous system and its divisions. Content includes a complete overview of the
anatomy of the nervous system in its entirety including the special senses. Physiology of action
potentials and reflexes are covered in-depth. Practical application is included through the
overview of common pathology and injury to the nervous system.

Module 2: In this module students are introduced to the circulatory system. Content includes an
anatomical overview of the heart and surrounding vessels and structures. Students are taught
in-depth about the blood flow through the heart, pulmonary, and systemic circuits. In addition
there is an in-depth overview of the physiology of the cardiac cycle including electrical impulses.
This module also covers the blood and its composition as well as a complete overview of the
anatomy and physiology of the lymphatic system and the study of immunology.

Module 3: In this module students are taught a basic overview of sexual reproduction. Content includes a
complete anatomical overview of the male and female reproductive systems and an in-depth
physiologic study of the differences between the two including oogenesis, spermatogenesis,
and menstruation. The stages of pregnancy, labor, and delivery are also covered in-depth.
Module 4: In this module students cover cellular division including an in-depth overview of all phases of mitosis, meiosis I and meiosis II. Content also includes a discussion of the structure of DNA and a physiologic overview of the processes of DNA replication, transcription, and translation.

Module 5: In this module students cover the urinary system. Content includes a comprehensive overview of the anatomy of all structures within this system including an in-depth study of the kidney, its blood and nervous supply, as well as the physiologic processes of filtration, reabsorption, secretion, and regulation of urine concentration and volume.

Module 6: In this module students cover a comprehensive overview of water composition within the body as well as water balance. Content also includes an in-depth discussion of electrolyte balance as well as acid-base balance and chemical reactions that describe each. Practical application includes the discussion of pathology associated with these topics.

Lab 1: In this lab students have in-depth instruction on the central and peripheral nervous systems. Content includes discussion of the anatomical structure and function of the four divisions of the brain as well as the spinal cord. Cranial nerves are also discussed with practical application of signs/symptoms should they be damaged.

Lab 2: In this lab students have an in-depth review of the anatomy of the eye and ear as well as the physiologic processes of sight and hearing.

Lab 3: In this lab students are exposed to microscopic views of various tissues throughout the digestive, endocrine, and reproductive systems.

Lab 4: In this lab students have an in-depth study of the anatomy of the heart structure and major vessels. Content includes discussion of the difference between vessels in the systemic and pulmonary circuits as well as blood flow through these circuits.

Lab 5: In this lab students review blood flow through the heart and the systemic and pulmonary circuits.

Lab 6: In this lab students are introduced to blood types. Content includes a discussion on antigens and antibodies and their function within blood as well as how to determine what blood type a person may have. Practical application includes various case studies.
Lab 7: In this lab students have an in-depth overview of the male and female reproductive anatomy. Content includes discussion of male/female sex organs, gametes, hormones, and secondary sex characteristics.

Lab 8: In this lab students review in-depth the anatomy and physiology and the kidney and other structures within the urinary tract. Practical application is provided with discussion of normal and abnormal urinary findings as well as a demonstration of urinalysis.

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
Memorial Day
Labor Day
Christmas Break

Easter
Independence Day
Thanksgiving weekend

The schedule of holidays for the current calendar year may be found under the Student Services menu at 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.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Assignments</th>
<th>Subject Matter</th>
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</thead>
<tbody>
<tr>
<td>Days 1-28 (4 weeks)</td>
<td>Modules 1, Exam 1, in conjunction with Labs 1 and 2, and Lab Exams 1 and 2</td>
<td>Anatomical and physiological overview of the nervous system</td>
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<tr>
<td>Days 29-50 (3 weeks)</td>
<td>Module 2, Exam 2, in conjunction with Labs 4, 5, and 6 and Lab Exams 4, 5, and 6</td>
<td>Anatomical and physiological overview of the circulatory system</td>
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<tr>
<td>Days 51-72 (3 weeks)</td>
<td>Module 3, Exam 3, in conjunction with Labs 3 and 7 and Lab Exams 3 and 7</td>
<td>Anatomical and physiological overview of the male/female reproductive systems</td>
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Days 73-87 (2 weeks)  Module 4 and Exam 4  Cell division and DNA

Days 88-102 (2 weeks)  Modules 5 and 6, Exams 5 and 6, in conjunction with Lab 8 and Lab Exam 8  Anatomical and physiological overview of the urinary 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.


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:

- **Video lectures** which supplement the text material of each course module
- **Messaging system** which provides individual instructor/student interaction
- **Toll-free phone tutoring help line** which is available daily at appointed times (see below)
- **Tech support** which is available by submitting a help ticket

**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. In order to receive the accommodations, the student should furnish documentation of the learning disability prior to registration, if possible. Upon receipt of the documentation of a learning disability, Portage staff will provide the student with registration 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.

**Student Help Line:**

Portage students have access to our help-line phone service. The phone service is staffed by instructors who will answer questions regarding material in those courses. Please call 1-888-724-3590 and choose option #2 if
you would like assistance with your course work. Due to high call volume, we cannot guarantee that your call can be answered immediately so you may be required to leave a voicemail. The help-line instructors will return the voicemails as soon as possible and within one business day. If the hours above do not fit your personal schedule, please leave a message on the help line voicemail requesting an appointment. In the voicemail, please leave several dates and times convenient for a return call. If a help line representative cannot call you at one of your preferred times, you will be contacted to set up a mutually suitable time. Appointment slots are limited and will be granted as instructor time becomes available and at the discretion of the help line instructor. No appointments will be scheduled for Sunday.

**Help Line Hours**
Mon - Fri: 9 AM - 9 PM ET  
Sat: 9 AM - 11 AM ET  
Sun: Closed

**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.

**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.

**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 Executive Director 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 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 in regard to the material by reviewing both the old exam and the lesson module material. The student is also encouraged to contact the phone help line for assistance. 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.