BIO 111 Course Syllabus Fall 2019
Anatomy and Physiology I - Lecture

Time: Tuesdays and Thursdays 5:35pm – 6:50 pm
Location: 303 Payson Smith
Instructor: Sarah E. Darhower, MS
E-mail: sarah.darhower@maine.edu
Office: 118 Science
Office Hours: I can usually be found in my office Monday – Friday from 1-3pm.

Course Description:
Anatomy and Physiology I is the first semester of a two semester course in human anatomy and physiology. Anatomy is the study of the form of the body and physiology is the study of body function. The course will begin with an introduction to terminology as well as fundamental principles of cellular function. The course will include examination of anatomy and physiology at the cellular, tissue, organ, and organ systems. Topics will include skeletal, muscle, and nervous systems.

Course Objectives:
1. To form a foundation in Anatomy and Physiology that will provide a base of understanding for all future courses you may take. In order to understand how the body is altered in disease, you must understand the normal anatomy and physiology.
2. To explore the form and function of the cell in sufficient detail, to understand the mechanisms of the body system functions and malfunctions at the cellular level.
3. To acquire specific knowledge of several body systems.

Lectures: Regular attendance is expected. It is your responsibility to obtain information from all lecture classes. Lectures will introduce key concepts and fundamental principles. The majority of exam material will come from lectures but additional material from the textbook and homework assignments (that may not be covered in class) will also be included in the exams.

I will use a mix of Powerpoint presentations and writing/drawing on the board. Presentations are available on Blackboard. Please feel free to print it out if you would like a hard copy. In order to give you a different perspective, many of the figures used in class will come from Hole's Human Anatomy and Physiology textbook, 14th ed., by Shier, Butler, and Lewis, McGraw Hill, 2016. I encourage you, as part of your independent study, to compare the figures used in class with those in your text. This should be done after each class. This method of study will help to ensure understanding and solidify the material discussed.

Course Policies:
• Students are expected to clean up after themselves.
• Students are responsible for all material covered. Students are expected to do their own work and cheating of any kind will result in a failing grade for this course.
• Students are expected to turn in all work on time. For every homework assignment that is late, 10 points (out of 100) will be deducted per class day late. All homework is to be submitted online through Blackboard. I will not accept homework assignments that are emailed to me.

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• Students are expected to take exams on the days they are scheduled. For every exam that is not taken on time, 10 points (out of 100) will be deducted from the grade.

• During exams, all cell phones MUST be silenced and put away in a bag.

• No one may leave the classroom during the course of an exam or quiz. Once you have left, you may not have your paper back.

• All arrangements for make-up work are the responsibility of the student.

Required Work and Assessments:

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<thead>
<tr>
<th>Required Work</th>
<th>Percentage</th>
<th>Grading Scale</th>
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<tbody>
<tr>
<td>Five exams</td>
<td>75%</td>
<td>A  93%+</td>
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<tr>
<td>Homework</td>
<td>25%</td>
<td>A- 90%-92%</td>
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<td>B+ 87%-89%</td>
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1. **Exams** will comprise 75% of the lecture grade. There will be 5 exams, approximately 1 hour in length. The exams will cover the material presented since the last exam. In other words, exams are not cumulative. This includes the final exam. No make ups will be given without a very good excuse.

2. **Homework** will comprise 25% of the grade. See blackboard for details of each assignment. These assignments will include discussions on Blackboard, online quizzes, drawings, light research, or completion of a worksheet. The assignment must be submitted to Blackboard by the due date in order to receive full credit. Notice that some due dates are on days that we do not have class.

3. **Study questions** will be posted on Blackboard for each exam. Study questions are not graded but answering these questions provides an opportunity to assess your own understanding of each topic. Complete the appropriate work before the start of the next week. Write careful, precise answers. Use correct spelling and grammar. Organize your ideas. Work with your peers to clear confusion, and feel free to ask me about any that you are having trouble with.

Suggestions:

1. Come to class. The lectures will clarify the reading and identify a selection of key ideas for each lecture.
2. Keep up with the reading and suggested assignments.
3. **Check our class Blackboard site often:** use the online resources as well as the textbook resources, animations, web links provided on our Blackboard site.
4. Ask questions in class. It is more than likely that you are not the only one having a problem understanding a particular concept and you will be doing others a favor by asking a question about it.
5. If you are struggling to understand the material, ask for help.
6. **Create a vocabulary log** – list terms from lectures, and homework questions; learn definitions.
7. Work with study partners and compare homework answers.
8. Re-write your lecture notes.
9. Write essay-answers to the key questions each week.
10. Make up your own multiple choice exam questions.
11. Answer the review questions at the end of each chapter in the textbook

**Academic dishonesty**: Plagiarism and cheating will not be tolerated; academic dishonesty may result in failure of the assignment, dismissal from the class, or dismissal from this academic institution. Please see me if you have any questions about what may constitute plagiarism.

**Students with disabilities**: USM is committed to ensuring access for qualified individuals with disabilities. If you have a disabling condition that may substantially limit your ability to participate in this class, please contact the Office of Support for Students with Disabilities for confidential assistance and accommodation authorization. Written authorization from OSSD must be presented to the instructor prior to accommodations being made. Contact Joanne Benica, the director of the Office of Support for Students with Disabilities at USM. Joanne can be reached at (207) 780-4706; jbenica@usm.maine.edu

**Technical support**: Contact Technical Support with questions or problems 1-800-696-4357; techsupport@maine.edu

**Library services are available**: [http://learn.maine.edu/ocls/](http://learn.maine.edu/ocls/)

**Email preferences**: I may communicate with you using your email address. Note that all email sent through Blackboard is sent to your “@maine.edu” address. If you prefer to use another address, you can forward any mail sent to this address to your preferred address. Set you mail forwarding preferences at [http://mail.maine.edu](http://mail.maine.edu)
TENTATIVE TOPICAL LECTURE AND LAB OUTLINE FOR BIO 111
Fall 2019

Sept 3 – Sept 12 Syllabus and Introductions
An Introduction to Anatomy and Physiology (Chapter 1) AND
Chemical Level of Organization (Chapter 2)

DUE Sept 10 HW #1: Introduction
   • Successfully log into our class on blackboard and post a few
   sentences about yourself under “Discussions” (50% of grade).
   Respond to/Comment on at least 2 other posts (50% of grade).
   DO NOT email this to me.

DUE Sept 10 HW #2: Quiz on Body Orientation on Blackboard

DUE Sept 17 HW #3: Chemistry Worksheet
   • Log in to Blackboard and choose “Assignments” from the
   menu on the left side of the screen. Choose “HW #3:
   Chemistry”. Open the attached Word document and follow
   the instruction on the worksheet. Answer the questions in the
   Word document, save your work, and submit the file in
   Blackboard. PLEASE DO NOT EMAIL THIS TO ME!

Sept 17 EXAM 1 on Chapters 1 and 2

Sept 19 – Oct 1 Cellular Level of Organization (Chapter 3) AND
Tissue Level of Organization (Chapter 4) AND
The Integumentary System (Chapter 5)

DUE Sept 24 HW #4: Stem Cell Worksheet
   • Log in to Blackboard and choose “Assignments” from the
   menu on the left side of the screen. Choose “HW #4: Stem
   Cells”. Open the attached Word document and follow
   the instruction on the worksheet. Answer the questions in the
   Word document, save your work, and submit the file in
   Blackboard. PLEASE DO NOT EMAIL THIS TO ME!

DUE Oct 1 HW #5: Quiz on Tissues on Blackboard

Oct 3 EXAM 2 on Chapters 3, 4 and 5

Oct 8 – Oct 24 Osseous Tissue and Bone Structure (Chapter 6) AND
The Skeleton (Chapter 7) AND
Joints (Chapter 8)

Oct 15 NO CLASS DUE TO FALL BREAK

DUE Oct 15 HW #6: Parts of a long bone
   • Draw a generic long bone.
   • Add labels for the following anatomical parts: proximal
     epiphysis, distal epiphysis, diaphysis, medullary cavity,
     periosteum, endosteum, articular cartilage, and epiphyseal
     plate. In addition, add labels for where you would find

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compact bone and spongy bone. All 10 labels must be included for full credit.

- Make sure your drawings are neat. Labels should have straight lines (using a ruler) pointing to the anatomical part. Labels must be legible.
- Draw and label your picture by hand, and then take a picture or scan in your paper. Once it is uploaded, check to make sure it is visible and legible on the screen before submitting. If I can't see it, I can't grade it.

DUE Oct 22  
HW #7: Skeletal Disorder

- Choose a disorder that affects either the development or maintenance of bones (Do not choose osteoporosis):
  - Write 2-3 paragraphs describing your chosen condition. Include the following:
    - Brief description of what it is
    - What causes it
    - Possible treatments and prognosis
    - List your references
  - Post this under the appropriate assignment space in Blackboard. PLEASE DO NOT EMAIL THIS TO ME!

DUE Oct 29  
HW #8: Quiz on Joints on Blackboard

Oct 29  
EXAM 3 on Chapters 6, 7, and 8

Oct 31 – Nov 12  
Skeletal Muscle Tissue (Chapter 9) AND The Muscular System (Chapter 10)

DUE Nov 5  
HW #9: Draw and label the anatomical parts of a sarcomere

- Start by drawing the pattern of actin and myosin, using a ruler! You can use the Powerpoint or your text (pgs 312-313) as a guide. Then, add labels for the following anatomical parts: actin, myosin, titin, Z line, M line, I band, A band, H band, and Zone of overlap. Also, label with a bracket what is represented by one sarcomere. All 10 labels must be included for full credit.
- Make sure your drawings are neat. Labels should have straight lines (using a ruler) pointing to the anatomical part. Labels must be legible.
- Draw and label your picture by hand, and then take a picture or scan in your paper. Once it is uploaded, check to make sure it is visible and legible on the screen before submitting. If I can't see it, I can't grade it.

DUE Nov 12  
HW #10: Exercise Physiology

- Choose an exercise (ie running, push ups, jumping jacks, etc), and think about the skeletal muscles and synovial joints that are used during those movements.
- In Blackboard, under HW #10, complete the following:
  - State the exercise you have chosen.
o List at least 5 skeletal muscles that are used for this exercise. (25%)
o State whether each muscle is a prime mover, synergist, or antagonist in relation to the movement you are describing. (20%)
o State each muscle’s origin and insertion points. (30%)
o State the type(s) of synovial joint(s) that are used for this movement. (10%)
o List the bones that are coming together in this joint to help create this movement. (15%)
o PLEASE DO NOT EMAIL THIS TO ME!

Nov 14 EXAM 4 on Chapters 9 and 10

Nov 19 – Dec 12 Neural Tissue (Chapter 11) AND
The Spinal Cord, Spinal Nerves, and Spinal Reflexes (Chapter 12) AND
The Brain, Cranial Nerves, and Sensory and Motor Pathways (Chap 13)
The Autonomic Nervous System (Chapter 14)

DUE Nov 26 HW #11: The Neuron
- Start with a basic drawing of the neuron. Then, add labels for the following anatomical parts: 1) dendrites, 2) axon, 3) soma, 4) nucleus, 5) synaptic knobs (with 6 vesicles), 7) myelin, 8) nodes of Ranvier. In addition, 9) add arrows for the direction the electrical signal travels relative to the neuron. Lastly, add a second cell, labeling 10) the synapse. All 10 labels must be included for full credit.
- Make sure your drawings are neat. Labels should have straight lines (using a ruler) pointing to the anatomical part. Labels must be legible.
- Draw and label your picture by hand, and then take a picture or scan in your paper. Once it is uploaded, check to make sure it is visible and legible on the screen before submitting. If I can't see it, I can't grade it.

Nov 28 NO CLASS DUE TO THANKSGIVING BREAK

DUE Dec 3 HW #12 – Spinal Reflex Arc
- Refer to the Chapter 12 Powerpoint presentation, Slide 9. Draw the reflex arc. Make sure to clearly label all 5 steps of the arc: 1) Sensory receptor, 2) Sensory (afferent) neuron, 3) Interneuron, 4) Motor (efferent) neuron, and 5) Effector. (Worth 70 pts)
- Then, write 1 sentence explaining the importance of reflexes. (Worth 10 pts)
- Lastly, specifically think about the withdrawal reflex of a hand touching a hot stove. List the 5 steps of the reflex arc again, but be specific to this action (ie what kind of receptors will be stimulated? which effectors will be targeted?). (Worth 20 pts)
• Take a picture and submit under Assignments in Blackboard. Make sure all labels are legible in your picture.

HW #13 – Chapter 11 and/or 12 Test Questions
• Write 5 possible exam questions from the material covered in Chapters 11 and/or 12 of the text. Choose the material that is giving you the hardest time. Your questions can be any type (multiple choice, short answer, fill in the blank, true/false, matching, etc). (40%)
• Include the correct answer to your questions. (10%)
• For each question, you must have a detailed explanation of why the answer is what it is. (50%)
• **Your questions must be unique. They cannot be repeats of questions that you find in the review sections of your text or ones you find online. Think about the material we have covered, and turn the information into a question. This is a great way to study!!! Plus, any great questions you write may show up on your next exam.

DUE Dec 10

HW #14: Quiz on Chapters 13 and 14 on Blackboard

EXAM 5 on Chapters 11, 12, 13, and 14 will occur during finals week at the day and time decided by USM.

*Note: this is a tentative Schedule – subject to change at instructor discretion