



Department of Biological Sciences  
BIOSCI 202 — Anatomy and Physiology I

**Instructor:** Rosemary Stelzer

**Office:** Lapham N213

**Office Hours**----In-person: Wednesdays, 2:30-3:45 or by appointment.

Virtual office hours: Via Microsoft TEAMS by appointment.

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**COURSE DESCRIPTION:**

This course will introduce the structure and function of the human body. We will explore the cellular organization of the body and the integration of those cells into tissues, organs, and systems. Students will engage in a variety of learning activities in the classroom, in laboratory exercises and investigations, and in reflective inquiry to explore and master the concepts in the course.

The expectation is that students are responsible for their own learning and that the instructor's role is to provide context and perspective that will enhance student learning. The assignments and in-class activities are designed to achieve that goal.

**LEARNING OUTCOMES:**

**Course outcomes:** Upon completion of this course, students will

1. Articulate the anatomical and physiologic features of cells and tissues, including basic genetic and inheritance concepts.
2. Demonstrate knowledge of biology as it pertains to human body structure, function and homeostasis.
3. Explain the structure and function of organs and body systems.
  - Integumentary
  - Muscular
  - Skeletal
  - Nervous
4. Evaluate the anatomical features of organs and body system in a laboratory setting and evaluate effective learning strategies.

**Departmental Outcomes relevant to this course:**

1. Apply scientific method to biological questions
2. Retrieve scientific information
3. Synthesize, integrate, and communicate scientific information
4. Describe/apply biological information and concepts

### **REQUIRED MEDIA:**

The following items are **required** for the course and used throughout the semester. The text is available for purchase at eCampus.com. The text is an online version used for *graded* components of the course. It must be purchased new.

**Text (ebook access code):** Vanputte C, Regan J, Russo A, Seeley R, Stephens T, Tate P. 2017. *Seeley's Anatomy & Physiology, 13<sup>th</sup> edition*. (Customized for UWM via an on-line access code). \*\*\***Students must purchase the online version of the textbook as homework assignments, lab assignments, exams, and quizzes are completed through the online textbook. A bound textbook will not be sufficient to complete all aspects of the course and receive a final course grade.**

**NOTE: All lecture announcements, updates, and assignments require access to and use of UWM's Canvas web site. If you need help with any of the functions, please view the student help files or check with the UWM Help Desk (229-4040 or help@uwm.edu).**

If you have issues related to internet access and computer usage that are **NOT** technical, please see your instructor as soon as possible. If you are having technical problems, call either the help desk (229-4040 or [help@uwm.edu](mailto:help@uwm.edu)) for UWM-related technical problems; or contact the support desks at the relevant on-line service (contact information is found on the Canvas, or the McGraw-Hill Connect websites). Students will need to have access to a computer with the web browser Google Chrome downloaded as Canvas is optimized through Google Chrome.

### **COURSE REQUIREMENTS:**

All reading and any pre-class assignments listed on the syllabus are due **before** the first class of the week that they are assigned. All other assignments are due as listed in the syllabus. There may be occasional extra assignments of timely readings or out-of-class activities.

**Email and Canvas:** Students must check their UWM email and Canvas regularly. Frequently, course updates and announcements are communicated through Canvas or email. It is expected that students will check their UWM email at least once a day. It is expected that students will check the course Canvas page a minimum of twice a week; at least once before each of the week's two lecture meeting times.

### **Communication policies:**

You may contact your instructor outside of class via email, after class, or during scheduled office hours.

- Please use email as your first point of contact with any questions or issues related to the course outside of regularly scheduled office hours or lecture. Email is the preferred method of contact because your instructor has frequent access to emails.
- When contacting your instructor via email, make sure to indicate your lecture section number in the email subject line. There are multiple sections of 202 this semester, so having this information is a key component to answering promptly.
- Instructors are given 24 hours to answer your emails. If the email is sent Monday-Friday during normal business hours (9:00-5:00) expect that it will probably be answered within a few hours, however, do not expect that it will.

- Emails that are sent during a weekend, holiday, or outside of normal business hours will be answered the next business day sometime between 9:00-5:00 pm.

**Course organization:** The course is organized to align with key learning objectives. Students will demonstrate mastery of these objectives by completing course assignments, quizzes, in-class activities, and exams.

**Time commitment:** For *each* credit hour earned in the course, students are expected to invest **at least 2-3 hours of work per week in addition to their time in lecture and laboratory sections**. For this 4-credit course, students are expected to complete **at least 8-12 hours of outside of class study time per week** to meet the learning goals of this course. This follows UWM policies:

“Study leading to one credit represents an investment of time by the average student of not fewer than 48 hours outside of class for each class contact hour in lectures, for laboratories, examinations, tutorials and recitations, and for preparation and study; or a demonstration by the student of learning equivalent to that established as the expected product of such a period of study.”

(UWM Faculty Document #2838;

[http://www4.uwm.edu/secu/docs/faculty/2838\\_Credit\\_Hour\\_Policy.pdf](http://www4.uwm.edu/secu/docs/faculty/2838_Credit_Hour_Policy.pdf))

**Course Components and Weightings:**

<b>In-Class Activities/quizzing: assessed by attendance, participation, and accuracy.</b>	5%
<b>Assignments: accessed through McGraw-Hill <i>Connect</i> and Canvas</b>	10%
<b>Pre-Exam quizzes: accessed through McGraw-Hill <i>Connect</i></b>	5%
<b>Lecture Exams</b> <ul style="list-style-type: none"> <li>• Exam 1 = 6%</li> <li>• Exam 2 = 6%</li> <li>• Exam 3 = 6%</li> <li>• Exam 4 = 6%</li> <li>• Final Exam = 6%</li> </ul>	30%
<b>Laboratory Component</b>	50%
<b>Total</b>	100%

Grades are based on successful completion of all components in the course.

- **Students must earn an average of at least 60% (D-) in laboratory to earn a passing grade in the course. If the student does not earn at least 60% (D-) in laboratory a grade of F will be recorded as the final grade in Bio. 202.**
- Weighted averages are calculated to determine the final grade.
- Lecture and lab grades are combined to one final grade at the weights given above. If you want to calculate an estimate of your total grade at any given point in the semester. Use this equation: **(lecture % x 0.6) + (lab % x 0.4) = combined average**

- Students must complete *all* requirements to receive a comprehensive grade.
- All work in the lecture and laboratory sections must be the student's own work.

Extra credit work is not accepted; this means that material that is not assigned as a part of the course cannot substitute for work that is assigned. Students in need of additional assistance or accommodations should contact the instructor as soon as possible.

*Incompletes.* A notation of "incomplete" may be given temporarily as a final grade to a student who has performed successfully in the course, but who, because of illness or other unusual and documented cause beyond the student's control, has been unable to take or complete some limited amount of the term's coursework. <http://www4.uwm.edu/secu/docs/other/S31.pdf>

### **Course Grading Scale:**

A: 93 - 100

A-: 90 - 92.99

B+: 87 - 89.99

B: 83 - 86.99

B-: 80 - 82.99

C+: 77 - 79.99

C: 73 - 76.99

C-: 70 - 72.99

D+: 67 - 69.99

D: 63 - 66.99

D-: 60 - 62.99

F: 0 - 59.99

*Remember that the grades from various parts of the course are **weighted**, so they figure into the course average in different ways. (see weighted components above).*

Grades are never rounded. As there will always be a cutoff to all percentage values of a certain letter grade. Please do not ask that your final grade be rounded-up no matter how small you may think the percentage difference to the next grade in the scale. Ex: If your final average is 79.97%, your letter grade is a C+.

### **Canvas Gradebook:**

Canvas is programmed to maintain a running estimate of your total course grade. Look in the "final grade" column. This is an estimate only, and it will change as more assignments are added.

This estimate does not tell you what your final grade **WILL** be, but only the approximate level of your performance in the course up to that point. In the end, the final grade depends on the score that you earn as the values from all areas of the course are added.

From time-to-time revisions must be made to grades stored in the Canvas gradebook. Revisions are done in case of imputing errors, downloading errors, errors in weighting components of the course,

testing center errors etc. If there is a revision to a grade found listed in Canvas, the instructor will communicate why the change was necessary.

All instructors in the course will maintain the most accurate gradebook in Canvas as possible. Corrected errors to grades found in the Canvas gradebook are not a valid reason to argue for a grade entered erroneously or a late course drop.

**Special needs and requests:** Students with special needs and requests for accommodations in the classroom (or other needs that affect their ability to complete their coursework successfully) should contact their instructors, the Accessibility Resource Center (<http://www4.uwm.edu/sac/>) or the Office of Student Life (<http://www4.uwm.edu/dos/>). Students with pressing issues of physical or emotional health and well-being should contact the Norris Center (<http://www4.uwm.edu/norris/>).

***Student Accommodations:*** Students with disabilities must contact the instructor well ahead of time if special accommodations are needed for coursework (assignments, assessments etc.). A valid student Eligibility Letter/Student Accommodation Plan (VISA) issued by the UWM accessibility resource center must be provided to the instructor. If the student informs the instructor that they need accommodations, and do not present the instructor with a valid student Eligibility Letter/Student Accommodation Plan (VISA), they will not be allowed the accommodation. Students must update their Eligibility Letter/Student Accommodation Plans (VISA) EVERY semester.

- i. Accommodations require at least one week's notice.
- ii. Some will require more planning and negotiation of the specifics of the assignment.
  - A. Be sure to allow sufficient time.
  - B. It is the student's responsibility to contact the instructor for their accommodations, not the instructor's responsibility to remind the student of the accommodation.
  - C. If a student has the accommodation of extra time on an exam, or minimally distracting environment listed on their Eligibility Letter/Student Accommodation Plan (VISA), they must coordinate the alternative time with the ARC via online communication. These arrangements must be completed at least 5 business days prior to the exam listed on the syllabus in order to complete the exam at the ARC testing center. Please contact the ARC directly for specific policies related to scheduling alternative exam times.

***Academic Integrity:***

All work submitted to fulfill the academic requirements in the lecture and laboratory sections must be the student's own, except when students are assigned or given permission to work in groups. In these cases, all the work submitted by the group must be original and written for this assignment by the students in this group. Policies on group collaborations will be communicated on the Canvas course site when necessary.

UWM Policies on academic integrity and misconduct may be reviewed at:

<https://uwm.edu/deanofstudents/conduct/academic-misconduct/> Academic misconduct in *any* part of the course may result in a grade of F for the whole course.

### ***Safety Policies: Lab***

The laboratory component of the course may require special instruction in safety procedures for working with equipment and materials. Students will only be allowed to participate in the laboratory activity when the section's laboratory instructor is satisfied that students have learned and are following appropriate safety procedures.

### ***Course Assignments Policies***

- ❖ Due dates for course work are listed in the syllabus.
  - Unless due dates are changed by *mutual agreement* in class, the work is due as indicated. If due dates are changed, you will find an announcement on Canvas and/or an announcement will be made in class by the instructor.
  - **Online assignments are accessed through McGraw-Hill's Connect learning platform or through Canvas. These assignments must be submitted by the due date found in the syllabus.**  
**Students must register for Connect with their textbook access code, purchased through eCmapus. Instructions for registration/use of Connect are presented during lecture and will be posted on Canvas.**
- ❖ As all assignment due dates are clearly marked in the syllabus, no late assignments will be accepted. The only exception granted for late work is an emergency situation. For emergency situations, the student must submit, via email, documentation to the instructor within 24 hours of the emergency event. It is the instructor's decision to allow that student to submit a late assignment no matter what.
- ❖ Depending on the situation, a penalty for late assignments may be added. The penalty will be assessed by the instructor depending on the situation.

For questions and concerns about assignment due dates, please make an appointment, or email Ms. Stelzer.

**Pre-exam Quizzes:** Four pre-exam quizzes are assigned during the course of the semester. These pre-exam quizzes are completed through the McGraw-Hill Connect learning tool. These quizzes are used to help students review some of the material, get exposure to question format, and practice test taking strategies prior to the exam. Students are given multiple days to complete these quizzes. There are no extensions to the quizzes unless the student has a documented emergency take place in which they would be unavailable to complete the quiz through the entire assignment period (usually 5-7 days).

**As the due dates for the pre-exam quizzes are clearly marked on the syllabus, no late submissions are accepted. If you have a valid excuse, you must submit documentation stating that you were incapacitated the entire time the quiz was open in order to make-up the pre-exam quiz for credit.**

### ***Course Exam Policies***

Exams are given on the day as noted in the syllabus unless the instructor makes a written documented change to this date. The change will be reflected as an announcement on Canvas.

*The following policies apply to make-up exams:*

- The student must contact his/her instructor (within 24 hours) when an absence occurs and the decision to be allowed to make-up an exam is at the sole discretion of the instructor.

- Written documentation for emergency situations (example: doctor’s note) will be required to make-up an exam. This must be provided BEFORE being allowed to complete the quiz/exam.
- Only 1 opportunity will be given to make up an exam. You are expected to arrange a make-up session with your instructor within one week of the missed exam.
- If a scantron is used on an exam, your grade will be based on the scantron. You will not get credit for any transfer mistakes you make from the exam packet to the scantron.
- If you are late to an exam, you will not be allowed the full amount of time to complete the assessment. If you show up after an assessment have been collected, you will not be allowed to complete the assessment.

### ***Portable Electronic Devices***

Portable media players and recorders are prohibited, except for students who require them for documented disabilities. Use of cellular phones, tablets, smartwatches, and related electronic devices during in-person exams will constitute a presumptive case of academic dishonesty. Improper use of computers, cell phones or other electronic devices during online exams will also be viewed as academic dishonesty. Your instructor will clearly indicate how to complete online exams using your electronic devices properly. Students may use laptop computers, tablets, and so on for viewing the pre-posted lecture presentation, for making notes and annotations during the lectures, for participating in on-line chats related to the lecture material, and for on-line classroom response questions.

### **Other Relevant UWM Campus Policies**

#### ***Safety Policies: Weapons on Campus***

Current Wisconsin “concealed carry” law and the Second Amendment to the US Constitution notwithstanding, we have been informed that no weapons are permitted in any building on the UWM campus. For more information, please consult the *Concealed Carry Memorandum and FAQs* issued by the Office of General Council for the UW System Administration.

<http://www.wisconsin.edu/gc-off/news/concealed-carry.htm>

#### ***Other Applicable University Policies and Procedures***

This course will be conducted in accordance with University of Wisconsin–Milwaukee policies on discriminatory conduct, sexual harassment, grade appeal procedures, military leave, religious observances, and general complaints.

Students may review these policies and procedures at <http://www4.uwm.edu/sexualharassment/documents/>

[http://www4.uwm.edu/letsai/studentservices/policiesforms/pdf/grievance\\_policy.pdf](http://www4.uwm.edu/letsai/studentservices/policiesforms/pdf/grievance_policy.pdf)

<http://www4.uwm.edu/academics/military.cfm> <https://www4.uwm.edu/secu/docs/other/S1.5.htm>

[https://www4.uwm.edu/current\\_students/records\\_grades/grades.cfm](https://www4.uwm.edu/current_students/records_grades/grades.cfm).

These policies apply to all participants in this class — students, instructors of record, and teaching assistants.

**BIOSCI 202 — Anatomy and Physiology 1**  
*Section 401 (meets Mon/Wed), Section 403 (meets Tue/Thur)*  
**Course Tracking Calendar: Schedule of Class Meetings and Assignments<sup>1</sup>**

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\*\*\*\*Deadline to Withdraw With Full Refund—Sept. 5

\*\*\*\*Begin Late Registration Period (\$50 Fee in Effect)—Sept. 6

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**UNIT 1 — THE ORGANIZATION OF THE BODY**

***Week 1: Sept. 6-9***

Essential Question: What is anatomy and how do we understand it?

Review: Lecture Syllabus, found in this week's Canvas module and the syllabus module on Canvas

Readings: Chapter 1, sections 1.1-1.3, (skip section 1.4) 1.5-1.6

Lecture: Introduction to the course, Body organization, Terminology, homeostasis

**Assignment: SmartBook Chapter 1: Open Sept. 6—Due by Sept 23**

**\*\* All SmartBook assignments are accessed through McGraw-Hill Connect**

***Week 2: Sept. 12-16***

Essential Question: How do cells work?

Readings: Chapter 3, Sections 3.1, 3.3-3.10

Lecture: Complete lecture on homeostasis, Cell membrane/transport, Gene Expression

Online Lecture materials: Cellular organelles—view the recorded lecture materials on cell organelles found in this week's Canvas module.

**Assignment: SmartBook Chapter 3: Open Sept. 12—Due by Sept. 23**

**\*\*all SmartBook assignments are accessed through McGraw-Hill Connect**

\*\*\*\*Sept. 19—Last Day for Adding Full-Term Classes\*\*\*\*

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***Week 3: Sept. 19-23***

Essential Question: How do dividing cells preserve and transmit their information and features?

Read: **Chapter 3**, section 3.10; **Chapter 29**, section 29.7: pages 1110-1117 up to "Genetic disorders" ONLY

Lecture: Biologic variation and continuity; the cell cycle, Heredity.

**SmartBook Chapter 29: Open Sept. 19—Due by Sept. 23**

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<sup>1</sup> You will receive a separate schedule for the meetings of your laboratory section at your first meeting.

**Week 4: Sept. 26-30**

Essential Questions: What is a tissue? How does the anatomy of each tissue type relate to its functions?

Read: **Chapter 4, sections 4.1-4.4 and 4.8-4.9**

Lecture: Tissue classes and functions.

**SmartBook Chapter 4: Open Sept. 26—Due by Sept. 30**

**Pre-Exam Quiz #1 Covering material from Chapters 1, 2, 3, 29, and 4: Open Sept. 26—Due by Oct. 2**

**\*\*Pre-Exam quizzes are completed through McGraw-Hill Connect**

**\*\*\*Last day to withdraw without record---Oct. 3**

**UNIT 2---Support and Movement**

**Week 5: Oct. 3-7**

Essential Question: What is the integument and why is it so important?

Read: **Chapter 5, sections 5.1-5.5-- Integumentary System**

Lecture: Integument, skin color, glands

**EXAM #1: Unit 1, Chapters 1, 3, 29, and 4. Taken online through McGraw-Hill Connect**

**Exam open on Oct 3, 12:00 am-11:59 pm**

**SmartBook Chapter 5: Open Oct. 3—Due by Oct. 7**

**Week 6: Oct. 10-14**

Essential Question: How is the living skeleton integrated into the body's other systems?

Read: **Chapter 6, sections 6.1-6.10: Skeletal System Bones and Bone Tissue**

Lecture: Organization of the skeleton; physiology of bone maintenance, growth, and repair.

**Week 6: Oct. 10-14 ---Online--all lectures and assignments listed below will be completed online through Canvas**

Essential Questions: What features of bones allow the skeleton to function? How does the skeleton move?

Read: Chapter 8—Joints and Movement

Review: Review the list of features and markings of the bones of the skeleton (this should be a review of what's covered in lab). The list is given in this week's Canvas module, it is the same list as lab. You will not be tested on all the features of the bones from the list only the features that are involved in the articulations of any of the joints covered in lecture. A list of the anatomical features of the joints you need to know for the exam will be given in this week's module.

Recorded Lectures: Classifications and Movements of Joints

**SmartBook Chap. 6, Bone, and bone Tissue: Open Oct. 10—Due by Oct. 14**

**Post-online lecture quiz: Open Oct. 10—Due by Oct. 14**

**Week 7: Oct. 17-21**

Essential Question: How do muscles produce movement?

Read: Chapter 9: Muscular system Histology and Physiology

Lecture: Skeletal muscle physiology, Energy sources.

**SmartBook Chap. 9 Muscle Histology and Physiology: Open Oct. 17—Due by Oct. 21**  
**Pre-Exam Quiz #2 Covering material from chapters 5, 6, and 8: Open Oct 17--Due Oct. 23**  
**\*\*All Pre-exam quizzes are completed through McGraw-Hill Connect**  
**Chapter 9 will not be included on Exam #2. It will be included on Exam #3.**

**Week 8: Oct. 24-28**

Essential Question: How do muscles produce movement?

Read: Chapter 10--Muscular System: Gross Anatomy

Lecture: Muscle shape, size, and orientation; origins and insertions. Skeletal muscle histology.

**Exam #2: Unit 2, Chapters 5, 6, and 8. Chapter 7 is not included on Exam #2.**  
**Chapter 9 will not be included on Exam #2.**  
**Exam #2 taken online via McGraw-Hill Connect—on Oct. 24, open 12:00 am-due 11:59 pm**  
**There is no SmartBook assignment for Chapter 10.**

**Week 9: Oct. 31-Nov. 4**

Essential Questions: What are nerves, and how do they work?

Read: **Chapter 11**—Functional organization of Nervous Tissue

Lecture: Nervous system cells, chemical communication, synapses.

**SmartBook Chap. 11 Functional Organization of Nervous Tissue: Open Oct. 31—Due by Nov. 4**

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**\*\*\*Nov. 13--Last Day to Withdraw With 'W' on Transcript\*\*\***

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**Week 10: Nov. 7-11**

Essential Questions: How does the spinal cord process and deliver information?

Read: **Chapter 12:** Spinal Cord and Spinal Nerves

Lecture: Spinal cord anatomy, spinal nerves, plexuses. Start lecturing on Brain anatomy/physiology, Cranial nerves.

**SmartBook Chapter 12 Spinal cord and Spinal Nerves: Open Nov. 7—Due by Nov. 11**

**Week 11: Nov. 14-18**

Essential Questions: What features allow the brain to function?

Read: **Chapter 13**---Brain and Cranial Nerves

Lecture: Brain anatomy/physiology, Cranial nerves.

**SmartBook Chap. 13 Brain and Cranial Nerves: Open Nov. 14—Due by Nov. 18**  
**Pre-Exam Quiz #3 covering material from chapters 9, 10, 11, and 12: Open Nov. 14—Due by**  
**\*\*All -Pre-exam quizzes are completed through McGraw-Hill Connect**

**Week 12: Nov. 21-22 (Thanksgiving break, No classes in session Nov. 23-27)**

**Exam #3: Chapters 9, 10, 11, and 12 taken online via McGraw-Hill Connect on Nov. 21, open 12:00 am-11:59 pm. Chapter 13 will not be included on Exam #3.**

**No SmartBook assignment this week.**

**Week 13: Nov. 28-Dec. 2**

Essential Questions: Why are the senses important in maintaining homeostasis?

Read: **Chapter 14**: Integration of the Nervous system Functions

Lecture: General senses, Classification and histological features of receptors; the interpretation of the signals, and pathways for receptor output, ascending and descending spinal tract pathways.

**SmartBook Chap. 14 Integration of Nervous System Functions: Open Nov. 28—Due by Dec. 2**

**Week 14: Dec. 5-9**

Essential Questions: Why are the senses important in maintaining homeostasis?

Read: **Chapter 15**: The Special Senses

Lecture: Finish General senses, start Special senses part I, features of the special sense receptors, the interpretation of the signals and pathways.

**SmartBook Chap. 15: The special senses, Open Dec. 5—Due by Dec. 9**

**Week 14: Dec. 5-9-- Online--all lectures and assignments listed below will be completed online through Canvas**

Essential Question/s: What are the functions of the Autonomic Nervous system?

Read: Chapter 16: The Autonomic Nervous system (ANS)

Lecture: Autonomic Nervous System anatomy and physiology found as a recorded lecture/s in Canvas

**SmartBook Chap. 16: The ANS—Open Dec. 5—Due by Dec. 9**

**Pre-Exam Quiz #4 covering material from chapters 13, 14, 15, and 16: Open Dec. 5—Due by Dec. 11**

**\*\*All Pre-exam quizzes are completed through McGraw-Hill Connect**

**Week 15: Dec. 12-14**

**Exam #4: Chapters 13, 14, 15, and 16. Taken online via McGraw-Hill Connect on Dec. 14, open 12:00 am—Due by 11:59 pm**

**\*\*\*Dec. 15--Study Day---No classes meet.**

**\*\*\*\* A Cumulative Assessment (Final Exam) will be completed online via Connect. The final exam is open on Dec. 16<sup>th</sup> and due by Dec. 20<sup>th</sup>:**

**Class will not meet during the officially scheduled in-class exam time.**