



BIOLOGICAL SCIENCE DEPARTMENT

Course Syllabus, Spring 2022

Title: **Anatomy and Physiology I**

Catalog Number / Section: **BIOL 132 01**

Credit Hours: **4**

Lecture /Lab contact hours: **45 lecture/ 30 lab**

Instructor: **Christopher Hoffmann, MS, MA**

E-mail: choffmann@smccme.edu

Office: [Harborview 301](#)

Contact Information: **by email or phone (741-5774)**

Course description:

This four-credit lecture/lab course is designed for first-year students preparing for a career in the medical field. Emphasis will be on anatomical terminology, fundamental biochemistry, and structure and function of the following components of the human body: cells, tissues, integument, skeleton, joints, muscles, and nervous system. The laboratory portion of the course complements and reinforces the lecture through the use of additional resources, focusing on closer examination of the body's components. ***Students who have not passed a college biology course are strongly encouraged to take BIOL 100 Biology w/Lab for Non-majors or BIOL 105 Human Biology, before attempting BIOL 132.*** Prerequisite(s): MATH 050 Co-requisite(s): ENGL 100

Course objectives:

After successfully completing this course, students should be able to:

1. **apply** the scientific method of inquiry.
2. **describe** and **demonstrate** a basic understanding of structure and function as they pertain to the following topics: major body cavities, relative body positions, body sections, body regions, role of biochemistry in functioning organisms, structure and function of cells, tissues, integument, skeletal system and articulations, muscular system, and nervous system.
3. **perform** the hands-on lab experiments/activities, using selected biology lab equipment and proper safety practices.

Learning Outcomes

This course is intended to meet all the competencies of the SMCC Science Outcome and to introduce competencies of the Critical Thinking Outcome (more information at 'Learning Outcomes – General Education' in the College catalog).

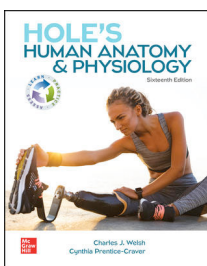
SMCC students recognize the methodology and content of science and its relevance. SMCC students:

1. *apply scientific methodology to the study of the natural world.*
2. *participate in hands-on and interactive lab activities.*
3. *demonstrate the ability to make scientifically-informed decisions.*

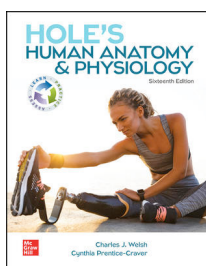
Topical outline of instruction:

1. Introduction to anatomy and physiology (Chapter 1, Labs 1-2)
2. Cell biochemistry, structure, and metabolism (Chapters 2-4, Labs 3-7)
3. Tissues (Chapter 5, Labs 8-10)
4. Support and movement (Chapters 6-9, Labs 11-24)
5. Integration and coordination (Chapter 10, Lab 25)

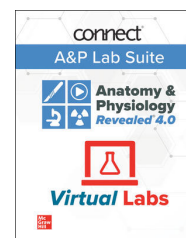
Required materials (covers shown below): Textbook, lab manual, and Connect access code are **all** required (note: you can access the textbook via Connect, so a hardcopy version is NOT required). These items are also required for BIOL 138 (Anatomy and Physiology II) and you won't have to purchase any materials for BIOL 138:



Textbook: Hole's Human Anatomy And Physiology, 16th ed., by Charles Welsh and Cynthia Prentice-Craver © 2022



Lab manual: Laboratory Manual to accompany Hole's Human Anatomy, 16th OR 15th ed., by Snider and Martin.



Connect Online Access for Anatomy & Physiology Digital Suite with Virtual Labs, APR, Practice Atlas and PhILS, 1st Edition, by McGraw Hill, 2021

Course requirements:

(Spring 2022) The lecture and some lab components of this section of this hybrid course are being delivered online and synchronously via Zoom and Brightspace (BS), and some lab components are also being delivered on campus at scheduled times (**Monday - on campus, Wed. - online**)

Assignments and Participation: All assigned material such as reading or news updates should be completed by the assigned date on BS to make your class participation more fruitful. Material and activities covered during class and laboratory are the responsibility of the student; this includes arrangements for make-up work when possible (typically, discussion board posts and responses explained below). Required work and assessment includes reading, quizzes, responses, news updates, various in-class and lab activities, lab responses, exams, and a project. Your constructive participation in both class and lab is welcome and expected throughout the semester. Specifically in the Zoom format, your attendance with video on is considered the basic and expected form of participation, since there will be visual acknowledgement that you are “present.” See grading below, and please contact me if there are issues with this form of participation.

Communication: Students are required to use Brightspace to check for assignments and announcements. (*If you miss a class, please do NOT email me and ask what the assignment is - it will be on BS*). Students are likewise expected to use their school **email** account for communication with me and classmates, especially regarding absences or tardiness (i.e., send me a note if you know you will be late or absent). Expect more prompt responses to your emails during the weekdays, and less so on weekends.

Phone calls or Zoom chats during **office hours** (Fridays, and at other scheduled times) are always encouraged to discuss anything relevant to the course. Don't be afraid to ask questions about anything, in class or via email. I am happy to answer questions about course policies, procedures, and setup, but please be sure you've first read through the syllabus, schedule and BS assignments. Please also don't hesitate to discuss anything you believe is affecting your performance in class.

Attendance and Conduct:

As the course is delivered synchronously online and on campus, students are expected to attend every class and assigned lab meeting. Attendance in a minimum of 80% of the total class time is required to avoid significant problems in the class. Since this class meets twice per week, 4 or more absences may result in failure and 3 absences in a row with no communication may result in Administrative Failure (AF). Attendance will be recorded as it is directly related to participation, both of which you receive credit for (see grading below).

An absence means missed discussions or lab experience which are difficult to replicate outside of the classroom. However, unforeseen situations and illnesses do occur, so remember the importance of respectful communication with your instructor about issues that affect your attendance. Emails or phone calls informing the instructor of your absence are a courtesy that will help you and the instructor plan the most effective way for you to keep up with the coursework.

Classmates will be courteous and respectful to all members of the class. During our online meetings as a class, please follow online and Zoom etiquette. ([Here is an example from the University of Scranton](#)).

(Spring 2022) - During our on-campus and in-person lab meetings, we will follow any Covid-related protocols. Please also minimize or refrain from the use of colognes, perfumes or *Cannabis* out of respect for allergies and sensitivities. While the syllabus represents current plans, **there may be changes** during the semester in response to the on-going Covid-19 pandemic. Depending on the progression of the virus, it is possible that the College may have to suspend face-to-face instruction for part of the semester. If we must stop face to face instruction anytime during the semester, your instructor will contact you via your SMCC email or the Brightspace course homepage to discuss next steps for the course.

Snow day/cancellation policy

When the college campuses are closed (for weather conditions, power outages, or any other reason), all classes (face-to-face and synchronous online, aka zoom) are canceled.

Student evaluation and grading (grade determination):

Assignment	Due Date	Percentage Points
Level 1 (remember/ understand)*: * lab manual exercises (20%) * virtual labs (5%) * attendance (5%)	weekly	30
Level 2 (apply/ analyze)*: * participation in class sessions (10%) * news updates (5%) * APR quizzes (15%)	weekly	30
Level 3 (evaluate/ create)*: * 3 exams (20%) * research log (10%) * class research project (10%)	see schedule below and on Brightspace	40
	Total	100

* based on Bloom's Revised Taxonomy <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy>

Level 1 (remember/ understand) learning of *basic knowledge and comprehension* will be assessed with lab manual exercises, virtual labs and simple attendance.

* All work that you complete in the **lab manual** will be scanned (Adobe Scan is strongly recommended for this) and submitted on BS. Complete, legible written responses that includes self-corrections, detailed sketches with color, and outside sources listed are considered "A".

* **Diagram quizzes** will be given at the start of on-campus lab meetings.

* **Virtual labs** are completed on the Connect programs available via McGraw Hill, and grades are submitted automatically on BS.

* **Attendance** will be taken each class and is graded as a percentage of the total; this will be reviewed and reported at midterm and then again at the end of the semester, or sooner at the student's request.

Level 2 (apply/ analyze) learning, where level 1 knowledge is applied and may be used analytically, is assessed with participation, news updates, and APR quizzes.

* **Participation** is linked closely with attendance. In the event of an absence, the student will make up the participation by reviewing the recorded class session, posting a response to the news updates for the day, and to specific discussion board topic/ questions for that week. (See also comments above in Course Requirements.) Other assignments such as the *Introductory Summary* assignment and the *What is Science?* survey, completed in the first week, will be the first Level 2 participation grades you receive.

* Each student will share two to three **news updates** during the semester. These are assigned alphabetically from the class roster, and the assigned days are posted on the Brightspace calendar. Students will be reminded of the upcoming Update in the previous class. More information on News Updates is on Brightspace.

* APR **quizzes** are taken online via Connect. You may take them as many times as you like prior to the due date to have your highest score recorded.

Level 3 (evaluate / create) The opportunity to synthesize and evaluate your basic and applied knowledge is **level 3** learning and is assessed with three exams, a research project, and a related research log.

- * **Exams** are essay responses that cover material from the text and relevant supplemental materials which includes news updates and other content presented and posted by your classmates.
- * The **project** involves research, collaboration and presentation. An individual, not group, grade is assigned and is based on your individual research log and your contribution to the presentation (also known as the “checklist”) as described in a self evaluation.
- * The **research log** is much like an annotated bibliography, and includes mostly the research you conduct for the class presentation, but also research for other smaller assignments throughout the semester.

Late grading policy - Five percent (5%) is deducted for each week an assignment is submitted past the due date.

Revision policy - For level 3 assignments such as exams, students may revise and resubmit their work if it was originally submitted on time. Grades can be improved up to 50% of the difference from an A grade. In other words, a grade of C can at best be “upgraded” to a B, and a grade of B+ can go up to A-.

The **final grade** is formally calculated using the above percent distribution. Grades and the above percent distribution are posted on Brightspace.

SMCC policies and services

End-of-Course Evaluation

Students complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal. Students can access the course evaluations beginning one week before the end of classes. The deadline for submission of evaluations occurs Monday at 5 p.m. following the last day of the class. You will receive an e-mail to your student e-mail account when course evaluations are available.

ADA Statement

Southern Maine Community College is an equal opportunity/affirmative action institution and employer. For more information, please call (207) 741-5798. If you have a disabling condition and wish to request accommodations in order to have reasonable access to the programs and services offered by SMCC, you must register with the Disability Services Coordinator, Sandra Lynham, who can be reached at 741-5923. Further information about services for students with disabilities and the accommodation process is available upon request at this number. Course policies about online testing are modified to suit each individual’s accommodations.

The Learning Commons and academic support:

The library, tutoring and writing centers, and reference/research assistance (typically located on the second floor of South Portland's Campus Center and in the Midcoast's LL Bean Learning Commons and Health Science Center) will be fully available online during the fall 2021 semester. Here you can find free academic support through individually scheduled and drop in, online tutoring. You can also find information literacy/research librarians, and professional academic strategy/planning mentoring online. While the physical space of the Learning Commons will be available at this time, we can also work with you to set up zoom classrooms for small group study. Services are offered by appointment or as drop-in assistance.

To access services:

- Visit My Learning in My Maine Guide or
- Select the "tutoring needed or need help?" button if it appears inside your Brightspace course.

Whether On Site or Online, students have consistently reported that the Learning Commons is a friendly, risk-free, and helpful place to seek academic support. It has also been shown that those who make use of the Learning Commons do better in a course than those who do not. We strongly encourage you to take advantage of this valuable and enjoyable resource.

SMCC Pay-for-Print Policy

Each semester students receive a \$20 printing credit. The balance resets at the end of the semester and any remaining credits are removed. The College's pay-for-print system monitors printing on all printers (including those in general access labs, library printers, Tutoring Services, Campus Center Lounge and technology labs). Be sure to log OUT of the system when you've finished your printing, to prevent unauthorized access to your account. Students can check the number of pages they have printed by using the Printing Balance tool available on SMCC computers (located in the lower right corner of the screen, near the clock). Departments with work study students who need to print documents for the department should contact the Help Desk at 741-5696 to have a special account set up. To find ways to reduce your printing charges, please go to the IT Help tab on My SMCC. If you have questions about the pay-for-printing policy or your printing charges, please contact the Help Desk at 741-5696 or send an e-mail to helpdesk@smccme.edu.

Refunds

Print jobs are eligible for a refund in the event of mechanical or electronic error on the part of the printer, print server, or software used to submit the job. Jobs are not eligible for a refund in cases where the job was not set up correctly, was submitted multiple times, or the student is not satisfied with the result. To request a refund, please bring the offending print to the IT Department

in the basement of the Ross Technology Center. Refunds will be granted in the form of a credit to the student's account.

Add-Drop Policy

Students who drop a course during the one-week "add/drop" period in the fall and spring semesters and the first three days of summer sessions receive a 100% refund of the tuition and associated fees for that course. Please note any course that meets for less than the traditional semester length, i.e., 15 weeks, has a pro-rated add/drop period. There is no refund for non-attendance.

Withdrawal Policy

A student may withdraw from a course only during the semester in which s/he is registered for that course. The withdrawal period is the second through twelfth week of the Fall and Spring semesters and the second through ninth week of twelve-week Summer courses. This period is pro-rated for shorter-length courses, usually 75 percent of course meeting times; please check with the Registration Office. To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Registration Office. This process must be completed either in person or by using SMCC e-mail accounts.

Plagiarism Statement

If an instructor suspects that a student has knowingly committed a violation defined in the Maine Community College System Policy on Student Grade Appeals and Academic Misconduct, the instructor has the authority to review the alleged misconduct and determine the grade that the student should receive for the assignment and the course. The instructor may assign a failing grade for the assignment or course and may require the student to complete additional work for the course. The instructor may consult with the department chair and/or the College's chief academic officer prior to making such decisions. If a student seeks to challenge an instructor's determination, the student should submit a grade appeal. Grade appeal forms are available in the Advising Office on the South Portland Campus or in the administrative offices in the Learning Commons on the Midcoast Campus. An instructor may also refer the matter to the College's disciplinary officer for review under the procedures of the MCCS Student Code of Conduct.

Grading scale:

100-93 = A
92-90 = A-
89-87 = B+
86-83 = B
82-80 = B-
79-77 = C+
76-73 = C
72-70 = C-
69-67 = D+
66-63 = D
Below 63 = F

BIOL 132 01 Anatomy and Physiology I Course Schedule Spring 2022

The online class meetings in Zoom via Brightspace are held from 8 AM to 9:15 AM, Monday and Wednesday. In this course section, assignments and related material will be posted on the Brightspace site for this course; the **tentative** reading assignments are posted below. Changes to the lab or reading schedule will be noted on Brightspace through weekly announcements.

Week	Topics this week (lecture and lab; Ch #s refer to textbook, Lab # to the lab manual) Check Brightspace for more info.	Tasks (work) opening this week. VL labs TBD; Chapter Responses TBD; Diagram Figures are for possible quizzes. Check Brightspace for due dates.	(Notes) / On-campus lab topics
1	Orientation Welcome, Brightspace, Connect, and APR v4.0)	- Brightspace Orientation - Introductory Summaries due second class (next week)	(This is Drop/Add week) - No on-campus lab this week
2	What is A&P all about? (Ch 1 Intro to Human Anatomy and Physiology) Lab 2 Body Organization	- What is Science survey due; Lab planning - group assignment, introduction,	(Drop/Add ends) OC lab week 2 - orientation, scientific method, Groups A and B
3	Life is chemistry! (Ch 2 Chemical Basis of Life) - Lab 3 Chemistry of Life	- APR Quiz 1 (Module 1 Body Orientation) - Virtual Lab tutorial - VL lab safety - Diagram 2 Fig. 1.26 a-b Quiz	Group A meets for OC lab week 3/4 - body orientation, microscopy, cells
4	Basic building blocks of life (Ch 3 Cells) - Lab 4 Care and Use of Microscope	- APR Quiz 2 (Module 2 Cells and Chemistry)	- OC lab week 3/4 (Group B)
5	Work that cells must do (Ch 4 Cellular Metabolism) - Lab 5 Cell Structure and Function - Lab 6 Movements Through Membranes	Exam 1 Ch 1-3 Project introduction and assignments - Diagram 3 Fig. 3.3 Quiz	- OC lab week 5/6 tissue illustrations (Group A)
6	Ch 4 continued - Lab 7 Cell Cycle .		- OC lab week 5/6 (Group B)
7	Cell associations (Ch 5 Tissues) - Lab 8 Epithelial Tissues - Lab 9 Connective Tissues - Lab 10 Muscle and Nervous Tissues	- APR Quiz 3 (Module 3 Tissues) Diagram 4 TBA Quiz	- OC lab week 7 - TBD
8	Your skin (Ch 6 Integumentary System) - Lab 11 Integumentary System	- APR Quiz 4 (Module 4 Integumentary)	- OC lab week 8/9 - integumentary
9	Your bones (Ch 7 Skeletal System) - Lab 12 Bone Structure and Classification - Lab 13 Organization of the Skeleton - Lab 14 Skull	- Chapter 7 Response In lecture: - Diagram 5 Fig. 7.4 Quiz VL - TBD	
10	Ch 7 continued - Lab 15 Vertebral Column and Thoracic Cage - Lab 16/17 Pectoral Girdle and Up/Lo Limb	- APR Quiz 5 (Module 5 Skeletal) - Exam 2 Ch 4-6 - Diagram 6 Fig. 7.16 Quiz	- OC lab week 10/11 - skeletal
11	Why your bones can move (Ch 8 - Joints) - Lab 18 Joint Structure and Movement - Lab 19 Skeletal Muscle Structure (both incorporated into class discussion) - Lab 20 Muscles of the Face, Head, and Neck - Lab 21 Muscles of the Chest, Shoulder, and Upper Limb	APR Quiz 6 (Module 5 Skeletal - second assessment)	

12	Another reason your bones can move (Ch 9 Muscular System)	–Diagram 7 Fig. 9.2 and 9.7 Quiz	- OC lab week 12/13 - joint movement
13	Ch 9 continued	- APR Quiz 7 (Module 6 Muscular) –Diagram 8 Fig. 9.29-9.30 Quiz	
14	Ch 9 continued - Lab 22 Muscles of the Deep Back, Abdominal Wall, and Pelvic Floor - Lab 23 Muscles of the Hip and Lower Limb - Lab 24 Surface Anatomy	- APR Quiz 8 (Module 6 Muscular second assessment) –Diagram 9 Fig. 9.23-9.24 Quiz	- OC lab week 14/15 - muscle models and movements
15	Your body's communication system (Ch 10 Nervous System I) - Lab 25 Nervous Tissue and Nerves	- APR Quiz 10 (Module 7 Nervous) –Diagram 10 Fig. 10.3-10.4 Quiz	
16	Ch 10 continued	- Exam 3 Ch 7-10 - Research logs and self/peer evaluations due	

"Why should a rat run, a bat fly, a porpoise swim, and I type this essay with structures built of the same bones unless we all inherited them from a common ancestor?" - Stephen Jay Gould