
Title: Anatomy and Physiology II with Lab	Catalog Number:	BIOL 138 D5
Credit Hours: 4	Total Contact Hours:	75
Lecture/Lab: Online	Instructor: Dr. Lara Carlson, FACSM, CSCS	
Office Hours: By appointment	Contact Information:	lcarlson@smccme.edu

SMCC COURSE SYLLABUS – SPRING 2022

COURSE DESCRIPTION

This four-credit lecture/lab course is a continuation of BIOL 132, building on many of the fundamentals. Emphasis will be on the structure and function of the following organ systems in the human body: nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary, and reproductive. The laboratory portion complements and reinforces the lecture, focusing on closer examination of these system structures via live and virtual dissection, and demonstration of their functions via simple testing. Textbook anatomical models/prepared microscope slides and online resources may also be incorporated.

Prerequisites: BIOL 132 Anatomy and Physiology I with Lab.

REQUIRED MATERIALS, TOOLS, OR SUPPLIES

1. Hole's Human Anatomy and Physiology, 16th ed., by Welsh and Prentice-Craver, McGraw Hill, 2022. ISBN 9781260265224
2. Laboratory Manual to Accompany Hole's Human Anatomy and Physiology, 16th ed., by Snider and Martin. McGraw Hill, 2022. ISBN 9781264262861. In addition to using your manual, we will also be using an online platform for labs (Lt kuraCloud). I will provide you with that information at the start of the semester.
3. Connect access (access code on a card, purchased separately) provides 18-month access to the e-book, APR (Anatomy and Physiology Revealed), Virtual Labs, and other learning resources. ISBN: 8220123634506
4. Email invitation from Dr. Carlson to access kuraCloud to complete the online Lt labs.
5. You will be required to have access to a computer with sound/microphone capability and a camera, and the internet. You will also be required to log into your Brightspace account online.

COURSE OBJECTIVES/LEARNING OUTCOMES

SMCC students recognize the methodology and content of science and its relevance. After successfully completing this course, SMCC students should be able to:

1. **apply** the 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,
4. **understand** anatomical vocabulary,
5. **distinguish** and **characterize** the major components of the nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary, and reproductive systems,
6. **explain** how each of the above systems functions individually and together.

TOPICAL COURSE OUTLINE

1. Integration and coordination (Ch 10-13)
2. Transport of fluid and material (Ch 14-16)

3. Absorption and excretion (Ch 17-21)
4. Human reproduction (Ch 22 and part of Ch 23)

COURSE FORMAT

As the lecture schedule indicates in the syllabus, the BIOL 138 Section D5 Lecture is “scheduled” on Tuesday and Thursday, which means I will post all narrated PowerPoint (PPT) lectures to Brightspace on Tuesdays and Thursdays as per the syllabus. Your BIO 138 D5 Laboratory is “scheduled” on Thursdays, which means all your lab assignments are due by 9:00 PM on Thursdays. Laboratory will start on the second week. You will receive an email invitation from me to access kuraCloud to complete the online Lt labs.

For example, your lectures will be posted by 9:00 AM on the day of that particular topic listed in the syllabus. Your examinations will also be scheduled on the days listed in the syllabus. You will have between the hours of 9:00 AM to 9:00 PM to complete the timed exams. Precisely at 9:00 PM, the exam will close regardless, so manage your time accordingly. Your labs will be assigned and ready to perform at 9:00 AM on Mondays and due by 9:00 PM on Thursdays. Online labs will not be offered at any other time.

Please note, if an assignment or examination is scheduled for either lecture or laboratory- It will be the ONLY time you will have to complete the online assessment. If you do not log-on and complete the assessment/assignment during the time it is scheduled or due, you will receive a zero for that assessment/assignment- no exceptions. So, although I may post the lectures online as per the syllabus schedule, you have some flexibility as to when you download/review it. You do not have this flexibility with your weekly online Laboratory Assignments/Examination and Lecture Examinations when they are due. Only under extraordinary circumstances and at the discretion of the professor, will a student be allowed to take a missed exam. Interfering work schedules, car problems, court appearances, migraine headaches, relationship difficulties, and day care issues are not a valid excuse for missing assignments, particularly since all the assignments will be available online for several days. Do the assignment early in the week to avoid any complicated circumstances which may arise.

You will be required to have access to a computer with sound/microphone capability and a camera, and the internet. You will also be required to log into your Brightspace account online. Students can find information about Brightspace use and functionality on the SMCC website. Brightspace is the learning software used by the college to deliver courses online to students. Brightspace can be accessed by clicking on the tab located on the SMCC website and signing in with your login information. If you have problems with logging in you will need to contact SMCC Information Technology staff, as I am not an expert in IT troubleshooting. Their contact information is available on the SMCC website. Brightspace will be used to store PowerPoint lecture information, quizzes, examinations and other course materials. Your ability to access this course through Brightspace will occur at the start of the semester. You should access the information available on the SMCC website to assist you in understanding how to use Brightspace.

****PLEASE CHECK THE SYLLABUS SCHEDULE AND MAKE SURE YOUR PERSONAL SCHEDULE ALLOWS YOU TO MEET THE TIMELY DEMANDS OF THE COURSE. IF THERE IS SOME REASON YOU CANNOT MEET THE SCHEDULE, REQUIREMENTS, AND EXPECTATIONS OF THIS COURSE YOU SHOULD CONSIDER SWITCHING TO AN ALTERNATIVE SECTION FOR THIS SEMESTER.**

CONTACTING DR. CARLSON

The best way to contact me is through SMCC email. Make sure you only use your SMCC email account when communicating with me. I check my emails frequently, Monday through Friday. I strongly encourage you to ask questions!

COURSE REQUIREMENTS AND GRADING

- LECTURE:** 80% of semester grade based on:
- Four equally weighted lecture examinations during the semester (Each examination will serve as 20% of the course grade*).
 - Failure to take an exam due to absence or tardiness at the scheduled time will result in a zero for that exam or assignment missed. Do not miss scheduled exams. Period. Only under extraordinary circumstances and at the discretion of the professor, will a student be allowed to take a missed exam.

- LABORATORY:** 20% of semester grade based on:
- Lab assignments = worth 20%
 - Final Cumulative Lab Exam = worth 80%

FINAL BIOL 138 GRADE:

- | | |
|---------------------------|------------|
| • Lecture grade | 80% |
| • <u>Laboratory grade</u> | <u>20%</u> |
| Total A&P II grade | 100% |

***Part Two of exam four will include comprehensive material from the entire semester.**

LETTER GRADES ARE ASSIGNED FOLLOWING THE POLICY IN THE SMCC HANDBOOK. THERE WILL BE NO DEVIATION FROM THIS SCALE:

100-93	A	82-80	B-	69-67	D+
92-90	A-	79-77	C+	66-63	D
89-87	B+	76-73	C	62-60	F
86-83	B	72-70	C-		

POINTS TO CONSIDER

- Cheating in any form will NOT be tolerated. Show integrity and act in a professional, respectful manner.
- It is expected that you will be prepared for every class/lab, so please read any assignments as scheduled in your syllabus. If you are not online and you miss a lab assignment or exam, you will receive a zero.
- I do not grade on the basis of need. There will be no extra credit work to improve your grade. If you need an A in this course, figure out the total number of points necessary to earn an A. Do not ask me to change your final grade unless I have made a mathematical error. Results of individual exams, etc...may be discussed during my virtual office hours.
- Have fun. Yes...science is fun!

ATTENDANCE POLICY

Your future employer will not tolerate unexplained absences; they aren't acceptable here, either. If you absolutely must be absent, I expect you to notify me by e-mail with an explanation at least 24 hours in advance of each absence. If three absent days are consecutive with no contact or explanation, I will assign a grade of AF to you at the end of class on the third absent day. This essentially drops you from the course. All absences are considered unexcused, and therefore, you will not be able to make-up any missed assignments/examinations.

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.

FOR CLASSES WITH ANY FACE-TO-FACE COMPONENT

While the syllabus represents current plans, there may be changes during the semester in response to the ongoing 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.

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:

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 not 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" 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

TENTATIVE LECTURE SCHEDULE

WEEK	DATE	LECTURE TOPIC & READING ASSIGNMENT	CHAPTER
1	JAN 18	Welcome & Orientation	10
		Review Nervous System I: Basic Structure & Function	10
	JAN 20	Review Nervous System I & Nervous System II	10 & 11
2	JAN 25	Nervous System II: Divisions of the Nervous System	11 & 12
	JAN 27	Nervous System II: Divisions of the Nervous System	11 & 12
3	FEB 1	Nervous System III: Senses	12
	FEB 3	Nervous System III: Senses	12
4	FEB 8	Nervous System III: Senses/Review Sheet	12
	FEB 10	EXAMINATION ONE	
5	FEB 15	Endocrine System	13
	FEB 17	Endocrine System	13
6	FEB 22	Blood	14
	FEB 24	Blood & Cardiovascular System	14 & 15
7	MAR 1	Cardiovascular System	15
	MAR 3	Cardiovascular System – Cardiac Cycle	15
8	MAR 8	Cardiovascular System/Review Sheet	15
	MAR 10	EXAMINATION TWO	
9	MAR 22	Lymphatic System & Immunity	16
	MAR 24	Immunity	16
10	MAR 29	Immunity & Digestive System	16 & 17
	MAR 31	Digestive System	17
11	APR 5	Nutrition & Metabolism	18
	APR 7	Nutrition & Metabolism & Review sheet	18
12	APR 12	EXAMINATION THREE	
	APR 14	Respiratory System	19
13	APR 19	Respiratory System	19
	APR 21	Urinary System	20 & 21
14	APR 26	Water, Electrolyte	20 & 21
	APR 28	Acid-Base Balance	21

15	MAY 3	Reproductive System	22 & 23
	MAY 5	Review Sheet	
16	MAY 10	EXAMINATION FOUR – CUMULATIVE	

LABORATORY INFORMATION

ANATOMY & PHYSIOLOGY LABORATORY RESPONSIBILITIES

1. Read the laboratory assignment in your manual for that day.
2. Complete all laboratory sessions and assignments. All students must be “active” participants in each laboratory session. Some of the “hands-on” labs will require a volunteer to complete the lab so plan ahead accordingly.
3. Complete all laboratory assignments both in your lab manual, CONNECT, and online. Your lab manual and CONNECT assignments do not have to be handed in; however, the material will be used in addition to the online material, for the Cumulative Lab Final.
4. You must login online to complete the Online Lab Assignment as per the *Tentative Laboratory Schedule*. Once you complete the Online Lab Assignment, you will be required to save it as a PDF and upload it to your Brightspace account under the *Lab Assignments* tab within the *Content* Tab heading. If you do not upload your completed Lab PDF by Thursdays at 9:00 PM, you will receive a zero for that lab.
5. Failure to complete the online lab and upload the lab PDFs at the due date and time will result in a zero for that assignment. There are no make-ups. No exceptions.
6. Failure to complete the online cumulative Laboratory Final during the scheduled time will result in a zero. There are no make-ups. No exceptions.

EVALUATION:

- Laboratory assignments.
- A final written laboratory examination will be given at the end of the semester. The final exam will be cumulative and include the topics presented during laboratory (i.e., Hole’s, Lt, & CONNECT).

TENTATIVE LABORATORY SCHEDULE

WEEK	DATE	HOLE'S READING & EXERCISES ASSIGNMENTS	KURACLOUD LT ONLINE & CONNECT ASSIGNMENTS
1	JAN 18	NO LABS THIS WEEK	
2	JAN 24	Lab 27 Dissection of Sheep Brain Lab 28 Spinal Cord & Meninges <ul style="list-style-type: none"> Complete: Part C Figure 27.6 on p. 220 & Parts A-D on p. 225-227 	Brain Structure & Pathways
3	JAN 31	Lab 29 Reflex Arc & Reflexes Lab 30 Receptors & General Senses <ul style="list-style-type: none"> Complete: Part A p. 233 & p. 239 	Spinal Reflexes (skip "Pre-Lab Prep") CONNECT Monosynaptic Reflex
4	FEB 7	Lab 31 Smell & Taste Lab 32 Ear & Hearing Lab 33 Ear & Equilibrium <ul style="list-style-type: none"> Complete: Part A p. 245, Figures 32.1 & 32.2 p. 250 & 251, Part A p. 255, & Part A p. 263 	Sensory Physiology
5	FEB 14	Lab 34 Eye Structure Lab 35 Visual Tests & Demos <ul style="list-style-type: none"> Complete: Part A p. 273, Figure 35.4 p. 278 	CONNECT Visual acuity CONNECT Astigmatism test CONNECT Accommodation CONNECT Color vision test
6	FEB 21	Lab 36 Endocrine Histology Lab 37 Blood Cells <ul style="list-style-type: none"> Complete: Figure 36.1 p. 283, Part A p. 289, Part C p. 291, Part A p. 299 	Blood Hemostasis CONNECT Differential White Blood Cell Count
7	FEB 28	Lab 38 Heart Structure Lab 40 Blood Vessels <ul style="list-style-type: none"> Complete: Figures 38.1, 38.2, 38.3 p. 304-305, Part A p. 309, Figure 40.1 p. 320, Part A p. 331 	Heart Dissection Blood Vessel Histology Circulatory System Model
8	MAR 7	Lab 41 Blood Pressure <ul style="list-style-type: none"> Complete: Part A p. 337 	Blood Pressure, Flow, and Resistance Blood Pressure Regulation
9	MAR 21	Lab 39 Cardiac Cycle <ul style="list-style-type: none"> Complete Part A & C p. 315-316 	ECG Basics
10	MAR 28	Lab 42 Lymphatic System Lab 43 Digestive Organs Lab 44 Action of a Digestive Enzyme <ul style="list-style-type: none"> Complete: Figure 42.2 p. 340, Part A, B & C p. 343-344, Figures 43.1 & 43.2 p. 346, Figures 43.5 & 43.7 p. 348-349, Figure 43.12 p. 353, Part A, B, C & E p. 355-356 	Digestion & Absorption Glucose Homeostasis
11	APR 4	Lab 45 Respiratory Organs Lab 47 Control of Breathing <ul style="list-style-type: none"> Complete: Figure 45.1 p. 366, Part A p. 371, Part C p. 372, Part A p. 387 	Mechanics of Ventilation Lung Anatomy and Airflow

12	APR 11	Lab 46 Respiratory Volumes <ul style="list-style-type: none"> Complete: Part A & B p. 381 	Respiratory Mechanics & Spirometry Lung Volumes
13	APR 18	Lab 48 Urinary Organs Lab 49 Urinalysis <ul style="list-style-type: none"> Complete: Figures 48.1 & 48.2 p. 390, Figure 48.4 p. 392, Part A & Part B p. 395-396 	Kidney Anatomy Glomerular Function Tubular Function
14	APR 25	CUMULATIVE LAB EXAMINATION – APRIL 25TH ONLY	

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