

# Human Physiology (Physiology 1)

Spring 2022 Syllabus and Course Outline  
Section 5068 and 5075  
Santa Rosa Junior College

## Contact Information

**Instructor:** Manuel Flores, M.S.

**E-mail:** [mflores@santarosa.edu](mailto:mflores@santarosa.edu)

**Lectures on Zoom:** Mondays/Wednesdays 9:00 AM – 11:00 AM

**Labs in-person in Baker Hall room 1879:**

**Section 5068** – Tuesdays 9:00 AM – 12:00 PM

**Section 5075** – Thursdays 9:00 AM – 12:00 PM

**Virtual Drop-In Hours:** M/W 11:00 AM – 12:00 PM, Tue 3:00 – 5:15 PM, Thu 12:00 – 12:45 PM

**Zoom channel:** <https://cccconfer.zoom.us/j/94989611552>

## Course Description

Study of the function of the human body with a focus on mechanisms of homeostasis at the biochemical, cellular, and systemic levels. Laboratory experiments are conducted to illustrate major principles associated with these systems. (Intended for pre-nursing and pre-dental hygiene students.)

## Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Describe the function of the organ systems of the body.
2. Describe in detail the biochemical and cellular mechanisms that maintain homeostasis.

## Course Objectives

In order to achieve these learning outcomes, during the course the students will:

1. Describe the characteristics of the scientific method and how it forms the basis of all modern scientific research.
2. Define homeostasis and explain how feedback mechanisms function to maintain homeostasis.
3. Explain relationships between structure and function at the molecular, cellular, and systems level of biological organization.

4. Explain how the structures of proteins and cells support the function of organ systems.
5. Compare and contrast the basic mechanisms by which cells, organs, and systems of the body carry out their specific physiological functions and maintain homeostasis.
6. Describe and evaluate the body's response to some major physiological stressors such as exercise, fasting, severe temperature extremes, injury, hemorrhage, infection, and diarrhea.
7. Apply knowledge about the function of the body to understanding the physiological basis for some of the major diseases and disorders of the human body.
8. Conduct physiological experiments that elucidate the functions of the body's organ systems.

## Prerequisites

CHEM 60, college biology (BIO 10), ENGL 1A with a grade of 'C' or better are required; Math 150B and ANAT 1 are highly recommended.

## Textbook

We will be using [Anatomy and Physiology from OpenStax](#) ( ISBN: 1938168135). The textbook for this class is available for free online or you can purchase a print version in the campus bookstore or online. I cover everything you need to know in my lecture notes, so please think of the textbook as an alternate resource for information.

For lab, you will have to purchase the **Physiology 1 Lab Manual** available at the bookstore.

## Recommended Hardware

Ideally, you should have access to a laptop or desktop computer to complete this course. However, I have taken care to design a course that can also be completed from a smartphone. Please know that writing discussion posts for this class will be difficult and time consuming without a proper keyboard - it can be done but isn't ideal. If you intend to complete this course on a phone, please let me know if there are any problems that arise. Your feedback will help me improve our learning environment to support more students.

## Required/Recommended Software

- **Canvas:** This is the college's online course management system. You can access Canvas through <https://canvas.santarosa.edu/login/canvas> . Please log in at least once per day so you don't miss any important information.
- **Canvas Student App:** I strongly recommend that you download the free [Canvas Student App](#) before the course starts so you can stay more connected with our course. When prompted to find your school, enter SRJC and then select our course from your Dashboard.

- **Compatible Web Browser:** Please note that images may not load when accessing Canvas through Safari on iOS. If you are using an iPhone, iPad, or MacBook, please switch to [Google Chrome](#), [Mozilla Firefox](#), or the Canvas Student app (available on [iOS](#) and [Android](#)).
- **PDF Reader:** Some material in this course may be presented in PDFs. To view these materials, you will need a PDF reader like [Adobe Reader DC](#) (free version for Windows) or an equivalent program such as Preview on a Mac.
- **Word Processing Application:** This is not required, but you may benefit from typing your discussion posts in a word processing application as it will make checking spelling and grammar easier. There are numerous options available, including [Microsoft Office 365](#) (free for students) and [Google Docs](#) (free).

## Academic Accommodations

Students with disabilities, who may need accommodations in this class, are encouraged to contact the [Disability Resources Department \(DRD\)](#) as soon as possible to ensure that such accommodations are implemented in a timely manner. Authorization, based on verification of disability, is required before any accommodation can be provided. The DRD can be contacted at 707-527-4278 or at [disabilityinfo@santarosa.edu](mailto:disabilityinfo@santarosa.edu).

## Instructor Communication

My goal as your instructor is to help you succeed. I encourage you to reach out if you have questions about the material covered in class, want to discuss career options, or need help with academic and/or personal issues. To contact me, please use [Canvas Inbox](#) or e-mail me directly at [mflores@santarosa.edu](mailto:mflores@santarosa.edu). I will do my best to get to your message within 24 hours but it may take me a bit longer to respond on weekends. If you prefer to meet with me on Zoom, please message me with a few time options that you are available. Once we find a time that works for both of us, we can meet via Zoom.

## Important Dates

- The last day to drop without a W and receive a refund is Sunday, January 30<sup>th</sup>, 2022.
- The last day to drop without a W is Sunday, February 6<sup>th</sup>, 2022.
- The last day to drop with a W is Sunday, April 24<sup>th</sup>, 2022.

## Announcements

Announcements is where I will post course updates, interesting articles and videos that relate to course topics, and checklists. To access [course announcements](#), click "Announcements" on the left navigation bar. Make sure to check for new announcements each time you sign-in to Canvas.

## Modules

Modules contain all the material you need for lecture and lab. To access [course modules](#), click "Modules" on the left navigation bar. The modules in this course are organized as follows:

- **Lecture Units.** Each unit contains lecture notes, a link to the lectures notes, review quizzes (optional), a practice exam (optional), and the graded assignments. The lecture notes highlight important structures and serve as a study guide for graded assignments. I recommend printing out the lecture notes so you can follow along lectures. The review quizzes and practice exam are provided to help you prepare you for the graded assignments.
- **Labs.** We will be using the Anatomy 58 Lab Manual to complete our in-person labs. On Canvas you will also find practice questions and practice material that will help you prepare for in-person laboratory graded assignments.

## Grades

To see your current grade in the course, please click [Grades](#) on the left navigation bar. My grading philosophy is simple. I want you to do well and that means you need to know what to expect.

- All assignments are listed so you know what tasks you have to accomplish. There are no hidden points or pop quizzes.
- Every assignment comes with clear instructions and a rubric (when appropriate). If something isn't clear or if you have a question about an assignment, please reach out to me.
- Practice quizzes and exams have been provided to help you improve your performance. These practice opportunities are a great way to build your knowledge, confidence, and success.
- Decide what grade you want and work towards earning it. If you haven't yet performed as you'd hoped, please reach out to me. I am happy to share ideas and get you set up with the resources you need to be successful in my class.
- Please make sure to review your scores regularly to make sure that I have received your work. If you have a question about a grade, feel free to send me a Canvas message or email me.

## Grading Scale

Lecture (750 points) will be combined with lab (250 points) to form your overall grade. Letter grades are assigned based on the total number of points earned in the course.

<u>Letter Grade</u>	<u>Percentage</u>	<u>Points</u>
A	100 - 90%	1,000 – 900 points
B	89.9 - 80%	899 – 800 points
C	79.9 - 70%	799 – 700 points
D	69.9 - 60%	699 – 600 points
F	<60%	less than 600 points

## Graded Assignments

Graded assignments are found at the end of each lecture and lab module. When you are ready, click on the title of the assignment that you'd like to take. This will pull up the instructions page. Please make sure to read the full set of instructions before clicking the "Take the Quiz" button. For discussions, please click on the title and read the instructions before posting. Below are the point values for the graded assignments in this course:

Four Midterm Exams	100 points each	= 400 points
Cumulative Final Exam	100 points	= 100 points
12 Lecture Homework	various points each	= 215 points
Two Lecture Discussions	15 points each	= 30 points
Two Student/Instructor Surveys	10 points each	= 20 points
17 Lab Reports	5 points each	= 85 points
11 Lab Assessments	5 points each	= 50 points *
11 Lab Quizzes	10 points each	= 100 points *
<b>Total Points in the Course</b>		<b>= 1,000 points</b>

\* The lowest quiz and assessment is dropped automatically.

## Midterm Exams

Midterm exams are not cumulative; each exam covers the material as outlined on the Course Schedule. Midterm exams will take place in-person, are timed, feature multiple-choice questions, fill-in the blank, short essay questions, and may be completed once. As required by the course outline of record, midterm exams will assess you on lecture and laboratory material

presented for that unit. Please see the Course Summary at the bottom of the syllabus for midterm unit exam due dates.

## **Cumulative Final**

The final exam is cumulative and will only assess you on the lectures covered in the entire semester. It will not assess you on information presented during lab.

## **Lecture Homework**

Lecture homework assignments are not timed, feature multiple-choice questions, and may be completed as many times as you like. Canvas will keep your highest score for grading purposes.

## **Lecture Discussions**

Discussions are your opportunity to get to know and work with other students in the class. I will largely refrain from direct participation in our discussion so that you may share that space with your fellow students, but I will provide feedback to your discussion posts in the form of written comments. The following guidelines will help ensure that you receive full credit for your discussions:

- A minimum of two posts is required for most discussions. Your initial post should answer the questions in the discussion prompt. Your second post should be a response to another student in the Discussion. Please remember that I care about the quality of your ideas, not your grammar or punctuation.
- While it's nice to give brief feedback like "thanks" and "good idea", we want to make sure our responses are providing valuable feedback. Try to make a new point, provide a new piece of evidence, or ask an insightful question. Questions and experiences are just as meaningful and valuable as posts that offer up one's knowledge!
- Treat others as you would like others to treat you. Remember, being able to work with others is an important skill for any future healthcare provider!
- I recommend composing your comments in a document and then copying and pasting it into the dialogue box on Canvas. This will prevent you from losing your work if you drop your internet connection or get kicked off the website.

## **Student/Instructor Surveys**

You will have the opportunity to complete two surveys that will tell me a about yourself. You can answer as many or few questions as you wish and will be granted full credit.

## **Lab Reports**

Lab reports will be completed during each lab and will be turned in to the instructor at the end of lab. There will be a total of 17 lab reports at 5 points each. To receive full credit the student must be present, perform the lab, and answer the lab report questions correctly. Students who

complete the lab report, but do not attend lab without an excused absence will receive a maximum of 2 points.

## **Lab Quizzes**

Lab quizzes cover material from the previous lab(s). There are 11 quizzes, with the lowest quiz score being dropped. There are no make-up quizzes.

## **Lab Assessments**

For each lab assessment, students must verbally answer one of various questions presented during lab. The number of questions and the material covered during each assessment will be at the instructor's discretion. Students will not be penalized for incorrect identifications during their assessment but may be asked to repeat the assessment if too many incorrect identifications are made. There are 11 assessments. There are no make-up assessments.

## **Course Expectations**

The purpose of this course is to help you develop the knowledge and skills that you will need as a future healthcare professional. I hope that when you finish this class, I've made you think about something you hadn't thought of before, that you've learned something valuable, and that you had a good time doing it. I've developed the following guidelines to create a comfortable and productive learning environment for us this semester

## **Grammar**

It is important to use proper grammar when answering essay questions to provide clear explanations. When answering questions use complete sentences and avoid words like "it".

## **Late Work/Due Dates**

Our assignments will have due dates. Due dates exist to keep us on track and to ensure that work doesn't pile up at the end of the semester. More importantly, developing the ability to complete tasks on time is an important skill for future healthcare professional to develop. Whether it is ensuring continuity of care at shift change or delivering medications on time, quality care and patient safety depends on our ability to organize and prioritize patient care activities in a timely manner. The following guidelines have been adopted for this course:

- I highly encourage you to work a little ahead of schedule to give yourself some breathing room. Planning out your schedule at the start of the semester is a great way to stay on top of your coursework.

- I know that sometimes things happen that are out of your control. If you identify a challenge meeting a due date, please reach out to me as soon as possible. I am willing to work with you, but I can only do that if you let me know you need help.
- I will provide a printable schedule to help you stay on track. You can also see the course due date by scrolling down to the Course Summary at the bottom of the syllabus.

## **Extra Credit Policy**

I am not able to offer extra credit to individual students as it is not fair the rest of the class. The best way to raise your grade is to take advantage of the unlimited attempts on lecture homework.

## **Class Participation / Drop Policy**

While I do not wish to drop students, I must do so if you do not participate. If you have having trouble keeping up, please contact me so we can figure out how to make you successful. The following is my official attendance and drop policy:

- Students who do not complete the Student/Instructor to Know You Survey by the due date will be dropped.
- Students missing two or more exams will be dropped with a W.
- If you identify a challenge meeting a due date or if you fall behind, please contact me right away. I am willing to work with you to develop a plan to catch up. If you remain in the class, but stop participating, you will receive the grade you earn.
- I will post checklists and end-of-week reminders on Canvas to help you stay on track. Please make sure to check your student e-mail, Canvas messages, and the Announcements tab each time you log on to Canvas.

## **Excused Absences**

An absence is excused when the student has notified the instructor prior to the absence and experiences one of the following circumstances:

- illness of self or immediate family (original health care provider's excuse with signature)
- personal emergency (e.g. car accident, death in immediate family, arrest)
- service or religious obligation (e.g. military training duties, jury duty, court subpoena)
- participation in a university-approved activity (e.g. athletic event)

## Changes to the Syllabus

Please note that I may need to modify the syllabus and/or course outline during the semester. Changes to the syllabus and/or course outline will be posted to Announcements on Canvas and sent to all students.

## Disasters

A disaster is any natural or man-made event which has seriously impaired or halted the normal operations of the College. While it can be unpleasant to plan for a disaster, it is an important part of being a professional. In the event of a disaster, I may waive scheduled assignments, offer alternative assignments, and/or elect to use a more lenient grading scale. Please make sure to check your student e-mail, Canvas messages, and the Announcements tab for updates.

## Waitlist Policy

While I wish I could teach every student who wants into my class, this course does have a limited number of seats. Due to the high-interaction requirements for lab, I will not be able to exceed the current seat limit. The following is my official waitlist policy:

- Waitlisted students have priority for any open seats. If a seat becomes available, students on the waitlist will be registered into the class in priority order until the seat limit is reached. I do not have the ability to skip over any waitlist students.
- Waitlisted students will have access to Canvas for the first few days of the semester. Waitlisted students who are unable to get a seat in the class will be dropped from the course.
- Please be aware that fees will be assessed whenever you move from the waitlist into the class and must be paid immediately.

## Plagiarism & Academic Dishonesty

Honesty is at the center of our educational partnership. I do my best to ensure that what I teach is supported by evidence and represents the best version of current science I can present within the time constraints of our course and with respect for its status as an introductory course. What I ask in return is that you engage in the course honestly, doing your own work, asking for help when needed, and sharing your understanding in your own words in our discussions.

Plagiarize is defined by the Merriam-Webster dictionary as: "to steal and pass off the ideas or words of another as one's own without crediting the source". As we proceed through this course, I ask you engage in our Discussions with your own words and to cite the sources you use. I make this request for two reasons: 1) I want you to understand the material, and 2) I want to help you develop the knowledge and skills you will need in your future classes and career. I cannot do that if you use someone else's words as your own. This course will follow

the [SRJC Academic Integrity Policies](#). It is my sincere hope that we engage in education honestly and do not need to address any cases of academic dishonesty in this class. Remember, you will be expected to know this material in your future classes and on the entrance and licensing exams for most healthcare professions. You and your future patients will benefit if you invest in learning the material now.

## Student Privacy

Students are guaranteed the right to privacy of their educational records by the [Federal Education Rights and Privacy Act](#) (FERPA). Any student materials that have been retained by the instructor will be destroyed seven (7) days following official submission of final scores at the end of the semester.

## Academic and Personal Counseling

It is common for college students to experience challenges that may interfere with academic success such as stress, sleep problems, juggling responsibilities, life events, relationship concerns, or feelings of anxiety, hopelessness, or depression. If you or a friend is struggling, I strongly encourage you to seek support. Helpful, effective resources are available on campus at no additional cost.

- If you are struggling academically with this class, please [meet with me on Zoom](#) or e-mail me directly at [mflores@santarosa.edu](mailto:mflores@santarosa.edu) .
- [Online counseling](#) is available if you are struggling academically in multiple classes or if you want to learn more about the academic resources that are available at Ventura College.
- Please visit the [Student Health Center](#) for information about the free and confidential mental health services that are available to students.

Tentative Lecture and Lab Schedule								
Wk	Date	Day	Lect	Lecture Title	Openstax	Date	Day	Lab
1	1/17	M		<i>Holiday</i>		1/18	T	<i>No lab</i>
	1/19	W	1	Introduction	1.1-1.5, 5.3	1/20	Th	<i>No lab</i>
2	1/24	M	2	Chemistry of Life	2.1, 2.2, 2.4	1/25	T	Data (1) & Homeostasis (2) & Cell (3)
	1/26	W	3	Molecules of Life, Proteins, Enzymes	2.3, 2.5	1/27	Th	Data (1) & Homeostasis (2) & Cell (3)
3	1/31	M	4	The Cell	3.1-3.3	2/1	T	Enzymes (4)
	2/2	W	5	Metabolism	24.1, 24.2	2/3	Th	Enzymes (4)
<b>NOTE: Feb 6 - last day to drop without a "W" (by 11:59pm Sunday night)</b>								
4	2/7	M	6	Membranes	3.1	2/8	T	Osmosis (5)
	2/9	W	7	Nervous system I	12.1-12.3	2/10	Th	Osmosis (5)
5	2/14	M		<b>LEC/LAB EXAM 1</b>		2/15	T	<b>LEC/LAB EXAM 1</b>
	2/16	W	8	Nervous system II	12.4-12.5	2/17	Th	<i>No lab/PDA day</i>
6	2/21	M		<i>Holiday</i>		2/22	T	CNS (7) & Reflex Arc (8)
	2/23	W	9	CNS	13.2, 14.2	2/24	Th	CNS (7) & Reflex Arc (8)
7	2/28	M	10	Senses	14.1, 16.4	3/1	T	Senses (9)
	3/2	W	11	PNS, ANS	13.4, 15.1, 15.2	3/3	Th	Senses (9)
8	3/7	M	12	Muscle I	10.1-10.8	3/8	T	Muscle (10) & Endocrine (lecture 14)
	3/9	W	13	Muscle II	10.1-10.8	3/10	Th	Muscle (10) & Endocrine (lecture 14)
9	3/14	M	14	Endocrine/Review	17.1-17.3	3/15	T	<b>LEC/LAB EXAM 2</b>
	3/16	W		TBD		3/17	Th	<b>LEC/LAB EXAM 2</b>
<b>Spring Break 3/21-3/27</b>								
10	3/28	M	15	Cardiovascular	18.1-18.4, 19.1	3/29	T	Cardiac Function (11) & BP (12)
	3/30	W	16	Cardiovascular	19.2, 19.3, 19.4, 20.2, 20.3	3/31	Th	Cardiac Function (11) & BP (12)
11	4/4	M	17	Respiratory	22.1, 22.2	4/5	T	Pulmonary Fxn. (13) & Acid Base (15)
	4/6	W	18	Respiratory	22.3-22.5	4/7	Th	Pulmonary Fxn. (13) & Acid Base (15)
12	4/11	M	19	Urinary	25.1-25.4	4/12	T	Renal (14)
	4/13	W	20	Urinary	25.5-25.7, 25.9, 25.10	4/14	Th	Renal (14)
13	4/18	M	20	Urinary/Review		4/19	T	<b>LEC/LAB EXAM 3</b>
	4/20	W		TBD		4/21	Th	<b>LEC/LAB EXAM 3</b>
<b>NOTE: Apr 24 - last day to drop with a "W" (by 11:59pm Sunday night)</b>								
14	4/25	M	21	Digestion	23.1-23.7	4/26	T	Digestion (16)
	4/27	W	22	Metabolism	24.1, 24.2	4/28	Th	Digestion (16)
15	5/2	M	23	Blood	18.1 - 18.4, 18.6	5/3	T	Glucose Tolerance (17)
	5/4	W	24	Immune	21.1-21.5	5/5	Th	Glucose Tolerance (17)
16	5/9	M	25	Reproduction	27.1-27.2	5/10	T	Blood (18)
	5/11	W	26	Reproduction	27.1-27.2	5/12	Th	Blood (18)

17	5/16	M		Review/Catch up		5/17	T	LEC /LAB EXAM 4
	5/18	W		TBD		5/19	Th	LEC /LAB EXAM 4
18	5/25	W		<b>FINAL LECTURE EXAM: 7:00am-9:45pm; in Baker 1879</b>				

### Midterm Details:

<p>Lec/Lab Exam #1 covers:</p> <ul style="list-style-type: none"> <li>• Lecture #1 – Introduction</li> <li>• Lecture #2 – Chemistry of Life</li> <li>• Lecture #3 – Molecules of Life</li> <li>• Lecture #4 – The Cell</li> <li>• Lecture #5 – Metabolism</li> <li>• Lecture #6 – Membranes</li> <li>• Lab #1 – Data</li> <li>• Lab #2 – Homeostasis</li> <li>• Lab #3 – Cell</li> <li>• Lab #4 – Enzymes</li> <li>• Lab #5 – Osmosis</li> </ul>	<p>Lec/Lab Exam #2 covers:</p> <ul style="list-style-type: none"> <li>• Lecture #7 – Nervous System I</li> <li>• Lecture #8 – Nervous System II</li> <li>• Lecture #9 – CNS</li> <li>• Lecture #10 – Senses</li> <li>• Lecture #11 – PNS/ANS</li> <li>• Lecture #12 – Muscle I</li> <li>• Lecture #13 – Muscle II</li> <li>• Lecture #14 – Endocrine</li> <li>• Lab #7 – CNS</li> <li>• Lab #8 – Reflex Arc</li> <li>• Lab #9 – Senses</li> <li>• Lab #10 – Muscle</li> <li>• Yes, there is no lab #6</li> </ul>
<p>Lec/Lab Exam #3 covers:</p> <ul style="list-style-type: none"> <li>• Lecture #15 – Cardiovascular</li> <li>• Lecture #16 – Cardiovascular</li> <li>• Lecture #17 – Respiratory</li> <li>• Lecture #18 – Respiratory</li> <li>• Lecture #19 – Urinary</li> <li>• Lecture #20 – Urinary</li> <li>• Lab #11 – Cardiac Function</li> <li>• Lab #12 – Blood Pressure</li> <li>• Lab #13 – Pulmonary Function</li> <li>• Lab #14 – Renal</li> <li>• Lab #15 – Acid Base</li> </ul>	<p>Lec/Lab Exam #4 covers:</p> <ul style="list-style-type: none"> <li>• Lecture #21 – Digestion</li> <li>• Lecture #22 – Metabolism</li> <li>• Lecture #23 – Blood</li> <li>• Lecture #24 – Immune</li> <li>• Lecture #25 – Reproduction</li> <li>• Lecture #26 – Reproduction</li> <li>• Lab #16 – Digestion</li> <li>• Lab #17 – Glucose Tolerance</li> <li>• Lab #18 – Blood</li> </ul>
<p><b>Final Exam:</b>  The final exam is comprehensive and includes ONLY lecture material.  The final exam does not include lab material  <b>It is scheduled for Wednesday, May 25<sup>th</sup> at 7:00 AM in Baker 1879.</b>  <b>Please plan accordingly.</b></p>	