



Spring 2019



**Section 502**  
Tues & Thurs 9– 10:15 a.m.  
HSB Rm. 101

# Biology 123 Syllabus

## COURSE INFORMATION

Introductory biology class covering cell biology, genetics and organismic biology. Credit not allowed for both biology 123 and 110. Credit is not applicable toward biology major.

## MIRIAM'S COURSE DESCRIPTION

I love teaching Biology – the study of life. In this class we will start by learning about the molecules that are part of all cells. Yes – your cells and everything we eat are composed of molecules. Most of the semester we will spend learning about the cell – such wonderful little machines that do all the work within an organism. First we will have to learn about all the cell components – think of them as little organs (organelles). Then, we will have to learn about how our cells obtain energy from food we eat. Next we will discuss DNA – our chromosomes; they are the ones that determine what we look like and everything about us. Have you ever thought about cell division? Why do cells divide? Why do we need to make more cells? These questions will be answered during our discussion on Mitosis and Meiosis. We also will discuss how traits are passed from generation to generation. Look at your family and see what traits you share. The last part of the semester we briefly study anatomy & physiology of the human body. How amazing is this? Now do you know why I love teaching Biology – we learn about our body and how it works.

Bring the knowledge that you have and take the journey with me as you continue with your educational goals.



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# Instructor's Information

## Miriam Chávez, Ph.D.

**Office:** Rm 100B, Health Science Building

**Phone:** 925-8613

**E-mail:** mjchavez@unm.edu

**Office Hours:** Mon—Thurs 8:00—9:00 a.m.  
Tues & Thurs 10:30 to 11:30 a.m.



*I have been teaching for 28 years at UNM—Valencia. I am originally from Bolivia and currently live in Los Lunas.*

## STUDENT LEARNING OUTCOMES

The course is divided into five modules and at the completion of this course, student will be able to:

### Introduction to biology

Explain the nature and process of science

Analyze data, construct and interpret graphs

Critically evaluate scientific information and develop a testable hypothesis to explain phenomena of the natural world

### Introduction to chemistry

Describe the atomic structure of an atom

Compare and contrast chemical bonding.

Explain the importance of water

Identify macromolecules of life and explain how their structures relate to their functions in cells

### Cells

Describe how cellular structures and functions are related, including organelles, membranes, and the cytoskeleton

Use the laws of thermodynamics to explain energy transformation and describe the various metabolic energy-transformation pathways in eukaryotic cells.

### Genetics

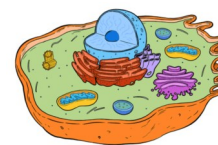
Explain the structure and functions of DNA in cells and the mechanisms for replication and regulation of gene expression.

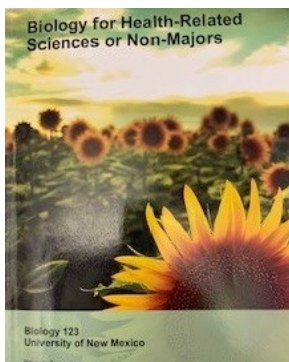
Explain the goals and mechanisms of nuclear division by mitosis and its role in the cell cycle. Explain the significance of meiosis, sexual reproduction, and the generation of genetic diversity and its relation to patterns of inheritance.

### Human physiology

Explain basic concepts of anatomy and physiology

Explain the relationship of tissue, organ, and organ systems; including their structure and function.





## REQUIRED LEARNING RESOURCES

**Textbook:** Inquiry into Life by S. Mader and M. Windelspecht, 15<sup>th</sup> edition, 2017, McGraw Hill Publisher. The bookstore has a special edition of the book - Biology for Health-Related Sciences or Non-Majors Course, Biology 123, University of New Mexico Valencia Campus, ISBN-9781307044010.

**Course Webpage:** <https://learn.unm.edu/> . The webpage contains resources you need to succeed in the course. Login using your UNM user name and password. ***You are responsible for all announcements, assignments, quizzes, tests and/or any changes to the syllabus will be posted on the webpage.***



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*“If you can dream it, you can do it” — Walt Disney*

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## TIPS FOR SUCCESS

If you are feeling lost or overwhelmed ....

**PowerPoint Slides.** Use the PowerPoint slides for each chapter to guide your reading the chapter. The Learning objectives should be used to make sure that you understand the material for each chapter.

**Study habits.** Look at figures and read the chapter. It may take more than one reading to understand the material presented. Learn the vocabulary.



**Office hours.** I am available to help you succeed in the class; stop by my office and I can clarify information or help you with homework.

**Learning Center.** The learning center has tutors ready to help Biology 123 students. Call the learning center at 925-8907 for available hours.

**Study groups.** Get together with classmates and form study groups. If you need a place to meet, you can try the STEM Center.

**SAGE.** SAGE (Student Alerts and Grouped Events) is the new Early Alert referral program I will use to send out emailed alerts to both students and staff regarding student progress. This enables streamlined communication between faculty, students and staff to help students succeed at Valencia. Students may receive SAGE referrals on tutoring needs, grades, attendance issues, missing assignments, etc., as well as kudos for a job well done.

## COURSE POLICIES

I will always be early to class so we can begin on time (and you can ask questions before we begin). I expect that you will contribute to a respectful atmosphere for learning.

**Attendance.** You must be in the class on time to get the most out of this course, participate in class discussions, and to get a good grade. You are responsible for “signing-in” to document your attendance. If you are missing more than 15 min. of class, it will count as an absence. Unless otherwise advised, after four absences you can be dropped from the class. The student will be held responsible for all material and information regardless of whether the student was in class.

**Make-up Exams.** Make-up exams (essay format) will be given to students with a documented emergency. You must notify the instructor the day of the missed exam.

**Quizzes.** Make-up quizzes will be given to students with a valid excuse.

**Homework.** These will be assigned weekly and there to help you master the concepts presented.

**Review Assignments.** There will be three assignments. These will help you apply the knowledge that you have gained. There will be one due before each regular exam.

**Late assignment/homework.** Late assignments/homework will only be accepted within the first week following the due date. There will be a 50% reduction in grade. I will not accept assignments after the first week.

**Withdrawal.** If a student drops the course before February 1, it will not appear on their transcript. After February 1 a “W” will be issued.

**Cell phones.** As a courtesy to the class, please turn off any cell phones. Please do not text message during class. Any sight of a cell phone during exams or quizzes will result in an automatic fail for that assignment.

**Disruptive behavior.** Please avoid any disruptive behaviors in the classroom. This includes going in and out of the class, texting, talking.

**Plagiarism.** Only submit work that is yours. Always cite any work used using APA



## THINGS TO KEEP IN MIND

### Accommodations:

If you have a documented disability and you need a reasonable accommodation made for you in this course, please consult with me immediately at the outset of the course so we can design a solution that will help you be successful in the class.

### Academic Dishonesty:

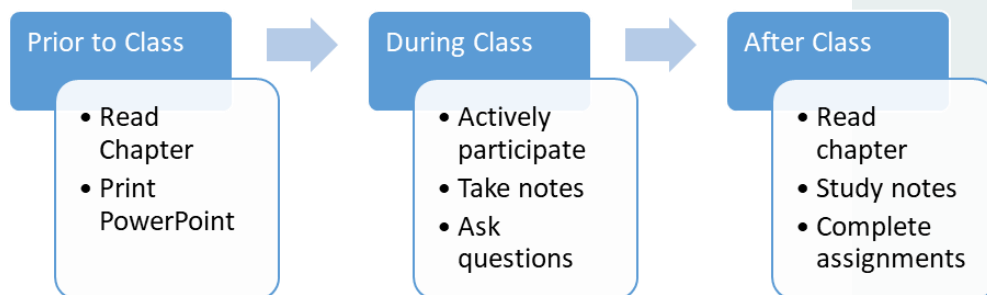
Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the

work in question and/or for the course. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

### Equal Opportunity and Non-discrimination:

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see page 15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity ([oeo.unm.edu](http://oeo.unm.edu)). For more information on the campus policy regarding sexual misconduct, see:

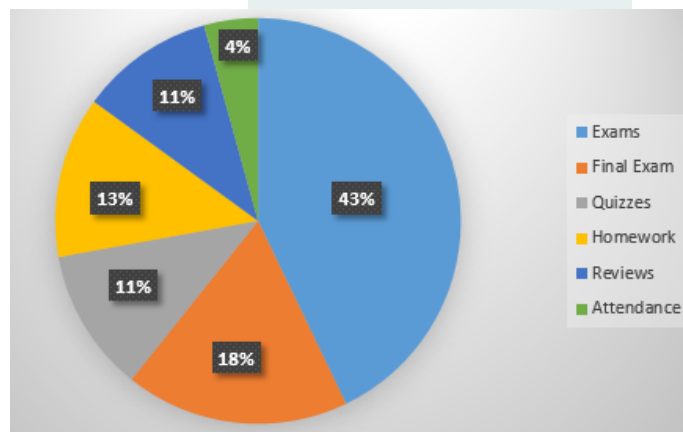
*Develop good study habits. Don't wait until the last minute.*



## GRADING CRITERIA—

### For Assigning Final Course Grade:

Exams (3)	300 points
Final Exam	125 points
Quizzes (4 out of 5)	80 points
Homework (9)	90 points
Assignments (3)	75 points
Attendance	30 points



The student's total points will be divided by the total possible points (700) and the grade earned will be based on the following percentage:

100 or higher – A+	77-79 – C+
94-99 – A	73-76 – C
90-93 – A-	70-72 – C-
87-89 – B+	60-69 – D
83-86 – B	below 60 – F
80-82 – B	



# COURSE OUTLINE

Week	Date	Chapter - Topic
<b>1</b>	January 15	Overview of Biology 1: Study of Life
	January 17	2: Basic Chemistry <b><i>Homework 1 due</i></b>
<b>2</b>	January 22	2: Molecules of Life <b>Quiz 1</b>
	January 24	2: Organic Chemistry <b><i>Homework 2 due</i></b>
<b>3</b>	January 29	3: Cells Biology
	January 31	3: Cells Structure <b><i>Homework 3 due</i></b>
<b>4</b>	February 5	4: Cell Membranes <b>Quiz 2</b>
	February 7	<b>Assignment 1 &amp; Review</b>
<b>5</b>	February 12	<b>Exam 1 (Chapters 1-4)</b>
	February 14	6: Energy & Enzymes
<b>6</b>	February 19	25: DNA Structure & Function
	February 21	25: Gene Expression <b><i>Homework 4 due</i></b>
<b>7</b>	February 26	5: Cell Cycle <b>Quiz 3</b>
	February 28	5: Cell Division <b><i>Homework 5 due</i></b>
<b>8</b>	March 5	<b>Assignment 2 &amp; Review</b>
	March 7	<b>Exam 2 (Chapters 6, 25, 5)</b>
<b>9</b>	March 12	<b>Spring Break—No Classes</b>
	March 14	<b>Spring Break—No Classes</b>

<b>Week</b>	<b>Day</b>	<b>Chapter: Topic</b>
<b>10</b>	March 19	7: Cellular Respiration I
	March 21	7: Cellular Respiration II
<b>11</b>	March 26	23: Genetic Inheritance I
	March 28	23: Genetic Inheritance II <b><i>Homework 6 due</i></b>
<b>12</b>	April 2	24: Chromosomal Inheritance I
	April 4	24: Chromosomal Inheritance II <b><i>Homework 7 due</i></b>
<b>13</b>	April 9	<b>Assignment 3 &amp; Review</b>
	April 11	<b>Exam 3 (Chapters 7, 23, 24)</b>
<b>14</b>	April 16	11: Human Organization
	April 18	12: Cardiovascular System I
<b>15</b>	April 23	12: Cardiovascular System II <b><i>Homework 8 due</i></b>
	April 25	14: Digestive System
<b>16</b>	April 30	15: Respiratory System <b><i>Homework 9 due</i></b>
	May 2	Review for Final Exam
	<b>Thursday, May 9</b>	<b>Final Exam at 9:00 a.m.</b>

\*\* I reserve the right to make necessary changes