

BIOLOGY FOR HEALTH-RELATED SCIENCES AND NON-MAJORS
Biology 1140-503
Spring 2020

Syllabus

Instructor: Dr. James Farslow
Classroom: Health Sciences, Room 101
Class hours: 1:30 – 2:45, Tuesday and Thursday
Office: Arts and Sciences, Room 132
Office Hours: Monday, 4:30 – 5:00, office;
Tuesday, 9:00 – 11:00, in the STEM Center in LRC;
Wednesday, 4:30 – 5:00, office;
Thursday, 9:00 – 11:00, in the STEM Center in LRC;
Friday, 9:00 – 11:00, office;
or by appointment (email me)
Campus Phone: 505-925-8613 (on campus 58613, only right before or right after class)
E-mail: jfars@unm.edu (Best way to contact me during the week. I do not respond to e-mail from Friday afternoon to Sunday evening.)

Course Description (from course catalog): This introductory course for students interested in health science careers focuses on the concepts of chemistry, cell biology, metabolism, genetics, and regulation of gene expression. Not accepted toward a Biology major. Credit for both this course and BIOL 1110 may not be applied toward a degree program. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science.

Student Learning Objectives: At the completion of this course students will be able to:

1. By the end of the course, students will be able to explain why evolution is the central paradigm of biology.
2. By the end of the course, students will be able to explain the nature and process of science and use it to critically evaluate scientific information and to develop a testable hypothesis to explain phenomena of the natural world.
3. By the end of the course, students will be able to analyze data, construct and interpret graphs.
4. By the end of the course, students will be able to explain the importance of water to life and apply basic chemistry to the biology of cells.
5. By the end of the course, students will be able to describe how the features of eukaryotic cellular structures and functions are related, including organelles, membranes, and the cytoskeleton.
6. By the end of the course, students will be able to use the laws of thermodynamics to explain energy transformation and describe the various metabolic energy-transformation pathways in eukaryotic cells.
7. By the end of the course, students will be able to explain the significance of

meiosis, sexual reproduction, and the generation of genetic diversity and its relation to patterns of inheritance.

8. By the end of the course, students will be able to explain the goals and mechanisms of nuclear division by mitosis and its role in the cell cycle.

9. By the end of the course, students will be able to explain the structure and functions of DNA in cells and the mechanisms for replication and regulation of gene expression.

Text: “Biology for Health-Related Sciences or Non-Majors”, a compilation of chapters from “Inquiry into Life”, 15th Edition, by Mader and Windelspecht, 2017. Students are expected to have a notebook and pen or pencil and to take notes during class. If something is written on the board, you should probably write it in your notes. Your notes **are** your study guide. I will post outlines of my lecture notes before class, but the details will be in your notes.

Course Webpage on learn.unm.edu (Blackboard): Course information including this syllabus, assignments, and grades will be available via learn.unm.edu. Additionally, there will be a **discussion board**. I will post a discussion topic Sunday evening each week. Students will then, at a minimum, post one response to each week’s topic. This response needs to be at least three substantive sentences about the topic to receive full credit. Do not just respond “That’s interesting” or “Okay”. These discussion responses will count as 10 points each toward the student’s grade. Students **must** post their responses by 11:59 pm Saturday of that week for credit. Students are encouraged to respond to each other and discuss the week’s topic. The discussion board will be asynchronous, meaning that you need to remember you are sending messages that people can respond to when they are able, not a real-time conversation. Students are expected to treat each other and opposing viewpoints with respect. **No trolling.** Students will adhere to the principles of netiquette, which can be found on the course Blackboard site under Course Information. This should not, however, preclude students from disagreeing or correcting each other, but do it respectfully.

I will also send out emails to the class periodically. Students should check email at least every couple of days, especially the evening before class.

Attendance Policy: Attendance will be taken each class as per UNM-Valencia policy. Students risk being dropped by the instructor if they have more than four absences. It is the student’s responsibility to drop the course if the student no longer wishes to attend or is unable to attend. Students are responsible for finding out what they missed in class. Class begins at 10:30 am. At 10:35 students will be considered late. Students who are late or absent may receive a **zero** for any quiz or exam administered that day unless they have a valid excuse. **Do not be late for exams or quizzes.** Assignments will be printed, and turned in by the end of class on the day they are due. Do not email assignments to me except in extenuating circumstances and with prior coordination with me. No late assignments will be accepted without a valid reason. Do not wait until the last minute to print assignments. Equipment malfunction (computer, printer, etc.) is not a valid excuse for late assignments. **Exception to the above:** Contact me if you have a valid excuse (illness, death in the family, car accident, etc.) to arrange

a make-up or turn in a late assignment, but you will need to provide evidence (doctor's note, etc.). Busy traffic is not an excuse. It is my prerogative to decide whether an excuse is valid.

Academic dishonesty (from the UNM Catalog): "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, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been 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 on quizzes, tests or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University."

Copying and pasting material from a webpage into your homework assignment is plagiarism. The same method you use to look up the information on the internet is probably the same method I will use to check if you copied it. All I need to do is Google your answer, and yes, I do check, so don't do it.

Also, if you work on homework assignments together, make sure the assignment is in your own words and with your own graphs. Don't just copy what your study partner wrote down.

Any instances of plagiarism will, at the very least, receive a zero for that portion of the assignment. This also applies to anyone who allows someone to cheat off of them.

During exams, make sure to keep answer sheets close to you or covered by the exam.

Electronic Device Usage: Students may use laptops or tablets to take notes. However, students will not use these devices for checking e-mail, web surfing, or other non-class activities during class. Cell phones will be silenced during class. No calling, talking, or texting during class. If you have an emergency call, take it outside the classroom please.

Student Behavior: Students will comport themselves as adults in an academic setting. Please do not engage in private conversations or act in an otherwise disruptive manner during class, or you will be asked to leave. If you need to ask the person next to you a question, make it short, do it quickly and quietly. I expect students to extend this courtesy to each other as well.

UNM-Valencia policy: No food or drinks in class.

No vaping or using tobacco products in class.

Students should bring notebook paper, either loose-leaf or spiral, and something to write with to class every day.

Grading Breakdown:

Quizzes (15 best @ 10 points each)	150
In Class Group Assignments (5 @ 15 points each)	75
Homework Assignments (5 best @ 30 points each)	150
Discussion Board (15 topics @ 10 points each)	150
2 Exams (@ 150 points each)	300
Final Exam (comprehensive)	200
Total points	1025

Quizzes: Quizzes will be short handout assignments usually at the beginning of Wednesday's class that won't take more than five minutes. The quizzes will cover material from the previous week or class. Students should make sure to put their name on the quiz to receive credit. When graded quizzes are returned, students will have one opportunity to correct mistakes and return the quizzes by the next class for half credit. There will be 16 quizzes, and the lowest grade will be dropped. The quizzes are worth 10 points each.

In Class Group Assignments: These will be problems similar to homework questions, but students will work them out in class in groups, and then we will discuss them to make sure students understand the concepts involved. Group assignments are worth 15 points each.

Homework: Homework assignments will be posted on Blackboard in the Assignments folder at least two weeks before they are due. These assignments will consist of questions intended to test the student's ability to apply their understanding of concepts covered in class. Answers should be about a page total (500 words) to be turned-in in class before the end of class that day. There will be 6 homework assignments, and the lowest grade will be dropped. The homework assignments are worth 30 points each.

Exams: Two midterm exams will be administered worth 150 points each. These exams will likely consist of around 75 multiple choice or matching questions and two extra credit questions worth two points each. The final exam will be of a similar format, will be comprehensive, consists of around 100 questions, and is worth 200 points, with three extra credit questions worth two points each.

Final grades will be awarded based on the percentage of points earned relative to total points.

Note: Please do not think at the end of the semester that if you have a 60% going into the final exam, you only need to make an 80% on the final to pass the course. **This is incorrect.**

Remember the final exam is only 200 points out of 1025. If you make 70% or higher on all coursework and exams throughout the semester (that includes the final), you will pass.

Exception: Regardless of a student's grade going into the final, if a student completes the final exam with an "A" (at least a 90%), that student will at the very least pass the course with a "C". Any grade above passing will depend on the student's total points.

Please read “How to Succeed in This Course” under Course Information on Blackboard. Remember, the Discussion Board answers are easy points that can only raise your grade as long as you provide a substantive answer.

Grade	From	To
A+	98	100
A	93	97.99
A-	90	92.99
B+	88	89.99
B	83	87.99
B-	80	82.99
C+	78	79.99
C	70	77.99
D	60	69.99
F	0	59.99

Extra Credit: Students can earn an extra credit of 35 points once for the semester if they voluntarily go to either the New Mexico Museum of Natural History and Science in Albuquerque, or one of the facilities of the Albuquerque BioPark (zoo, aquarium, or botanic garden). To get the credit, students will need to print their name on their receipt, and bring it to me in class. This is extra credit, not a required part of the course. Students are on their own if they choose to do this. The instructor and UNM-VC are not responsible for mishaps if you choose to take advantage of this.

Additionally, students can earn an extra credit of 20 points for completing the Blackboard Orientation in their course list on Blackboard. At the end of the Orientation, you are supposed to receive a Completion Certificate. E-mail that certificate to me for credit by 4 Apr.

Students with Disabilities: Please make sure that Equal Access Services has contacted me as soon as possible to ensure that your accommodations are provided in a timely manner.

Testing Center: Use of the Testing Center will only be for those identified by Equal Access Services as requiring it, or for unusual circumstances as determined by me.

Title IX Statement. 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 p. 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). For more information on the campus policy regarding sexual misconduct, see: <https://policy.unm.edu/university-policies/2000/2740.html>.

Students Needing Assistance with the Material: Any student having difficulties with the material (and some of the material is not easy for many people) should try to see me during office hours which are posted above. If you cannot make office hours, email me at the email address above. You may try the STEM center in the LRC (across the hall from the Math Learning Center). Every semester I encourage people to come see me or someone if they are having problems with the course, but too often people wait until it is too late to help them catch up. I hold office hours in the STEM center on Tuesday and Thursday mornings (9 to 11 am). If nothing else, they can be additional study sessions. You are probably not the only person with a particular question or problem. I can't help you if I don't know you're having difficulties, so come see me.

Course Outline

Week	Date	Subjects	Assignments Due
1	21-Jan	Ch 1: Process of Science	
	23-Jan	Ch 1: Characteristics and Classification of Life	
2	28-Jan	Ch 2: Basic Chemistry	Quiz 1
	30-Jan	Ch 2: Basic Chemistry	Quiz 2
3	4-Feb	Ch 2: Organic and Biological Molecules	HW 1
	6-Feb	Ch 2: Organic and Biological Molecules	Quiz 3
4	11-Feb	Ch 3: Cell Theory	GA 1
	13-Feb	Ch 3: Cell Structure	Quiz 4
5	18-Feb	Ch 4: Cell Membranes - Structure and Function	HW 2
	20-Feb	Ch 4: Cell Membranes - Osmosis and Transport	Quiz 5
6	25-Feb	Ch 6: Metabolism - Energy	Quiz 6
	27-Feb	Exam 1 - Ch 1 to 4	
7	3-Mar	Ch 6: Metabolism - Enzymes	Quiz 7
	5-Mar	Ch 7: Cellular Respiration - Glycolysis and Fermentation	Quiz 8
8	10-Mar	Ch 7: Cellular Respiration - Oxidative Phosphorylation	GA 2
	12-Mar	Ch 7: Cellular Respiration - Oxidative Phosphorylation	Quiz 9; HW 3
9	17-Mar	Spring Break	
	19-Mar	Spring Break	
10	24-Mar	Ch 25: DNA - Structure and Replication	
	26-Mar	Ch 25: DNA - Gene Expression	Quiz 10
11	31-Mar	Ch 25: DNA - Regulation, Mutations, and Cancer	Quiz 11; GA 3
	2-Apr	Exam 2 - Ch 6, 7, and 25	
12	7-Apr	Ch 5: Cell Cycle	HW 4
	9-Apr	Ch 5: Cell Division - Mitosis and Meiosis	Quiz 12
13	14-Apr	Ch 23: Simple Inheritance - Mendelian Genetics	
	16-Apr	Ch 23: More Complex Inheritance Patterns	Quiz 13; GA 4
14	21-Apr	Ch 24: Chromosomal Basis of Inheritance	HW 5
	23-Apr	Ch 24: Chromosomal Abnormalities and Mutations	Quiz 14
15	28-Apr	Ch 11: Human Organization - Tissues and Cavities	
	30-Apr	Ch 11: Human Organization - Organ Systems	Quiz 15
16	5-May	Ch 11: Human Organization - Organ Systems	GA 5
	7-May	Final Exam Review	Quiz 16; HW 6
Tue	12-May	Final Exam 1:00 - 3:00	

** Instructor reserves the right to make required changes during the course.