



## UNM Valencia Campus

**Semester:** Spring

**Year:** 2022

**CRN #:** 50587 Section 501. Tuesdays & Thursdays 9:00-10:15 in AS 140. Lab meets 10:30-11:45 Thursdays in AS 135.

**Credits:** 4 credit hours

**Course Description:** This class covers introductory concepts vital for biology majors including; meiosis and sexual reproduction, Mendelian genetics, DNA and gene structure and function, genomics, and gene expression.

**Instructor:** Dr. Ben Flicker

**Contact Information:** My office is HS 100B. My phone number on campus is 505-925-8726. My email address is [benflicker@unm.edu](mailto:benflicker@unm.edu). Email is the best way to contact me.

**Student Drop-In Hours:** These are times when I will be available in my office for student questions or other issues. Mondays 10:30-12:00 & 1:00-2:30, Tuesdays 10:30-12:00, Wednesdays 12:00-2:00, Thursdays 12:00-1:30, or by appointment.

**Weekly review sessions:** This is a material-heavy course. In order to help you keep up, a weekly review session will be held on Thursdays (occasional Tuesdays) from 12:00-1:00. It will be held in room A140.

This will be an opportunity to do homework, review for quizzes and exams, ask questions and meet with your classmates. These meetings are optional.

**Textbook:** *Biological Science*, Scott Freeman, Kim Quillin, Lizabeth Allison, Michael Black, Greg Podgorski, Emily Taylor & Jeff Carmichael, 2017. 6th edition, Pearson Higher Education.

**UNM Learn:** Course materials will be posted on the course website (<https://learn.unm.edu>) This includes the syllabus, all assignments and announcements, as well as links to email the instructor and other students in the course. You are responsible for all such communication on the learn course page, so please check regularly.

### **Student Learning Objectives:**

- 1.) Students will display an understanding of the processes and outcomes of nuclear division by mitosis and meiosis (Ch. 12 & 13)
- 2.) Students will show comprehension of patterns of inheritance by Mendel's laws, Punnet square analysis, gene linkage, and sex-linked inheritance (Chapter 14).
- 3.) Students will exhibit familiarity with basic structure of DNA and how the information of genes is expressed and controlled in the cell (Chapters 15-19).
- 4.) Students will demonstrate knowledge of genetic engineering and genomics.
- 5.) Students will understand basic concepts of development.

-The goal of this class is to help you become literate in these scientific concepts and be able to apply them in biology as you move forward.

**Attendance: Attendance is Required for all classes.** Students are responsible for getting information presented in any class missed. Students may be dropped from the class after 4 absences. Excessive tardiness (greater than 10 minutes) will be counted as an absence. Quizzes and Exams will begin promptly at the beginning of the period. **Arriving late for a quiz or exam could result in a score of zero.**

**Withdrawal:** If you drop the course after the drop deadline, you will receive a grade of 'W'.

**Title IX:** 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 pg 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: <https://policy.unm.edu/university-policies/2000/2740.html>

**Citizenship and/or Immigration Status:** All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. The Administration's welcome is found on our website: <http://undocumented.unm.edu/>.

**Missed exam/quiz policy:** Please contact me as soon as possible to arrange extra time for taking quizzes or exams as needed. Extensions will be given within reason.

**Students with disabilities:** Qualified Students with disabilities should see me or the campus testing center as soon as possible so we can meet your needs suitably and quickly.

**Syllabus Language: UNM Administrative Mandate on Required Vaccinations**

UNM requires COVID-19 vaccination and a booster for all students, faculty, and staff, or an approved exemption (see: [UNM Administrative Mandate on Required Vaccinations](#)). Proof of vaccination and booster, or a [medical, religious, or online remote exemption](#), must be uploaded to the [UNM vaccination verification site](#). Failure to provide this proof may result in a registration hold and/or disenrollment for students and disciplinary action for UNM employees.

**Booster Requirement:** Individuals who received their second dose of a Pfizer or Moderna vaccine on or before June 15, 2021, or their single dose of a

Johnson & Johnson vaccine on or before October 15, 2021, *must provide documentation of receipt of a booster dose no later than January 17, 2022.*

Individuals who received their second dose of a Pfizer or Moderna vaccine after June 15, 2021 or who received their single dose of Johnson & Johnson after November 15, 2021 *must provide documentation of receipt of a booster within four weeks of eligibility*, according to the criteria provided by the FDA (6 months after completing an initial two-dose Moderna vaccine, 5 months after completing the Pfizer sequence, and 2 months after receiving a one-dose Johnson and Johnson vaccine).

Exemptions: Individuals who cannot yet obtain a booster due to illness should request a [medical, religious, or online remote exemption](#) (which may have an end date) and upload this to the [vaccination verification site](#).

Medical and religious exemptions validated in Fall 2021 (see your email confirmation) are also valid for Spring 2022 *unless an end date was specified in the granting of a limited medical exemption*. Students must apply for a remote online exemption every semester.

#### Syllabus Language: UNM Requirement on Masking in Indoor Spaces

All students, staff, and instructors are required to wear face masks in indoor classes, labs, studios and meetings on UNM campuses, see the [masking requirement](#). Students who do not wear a mask indoors on UNM campuses can expect to be asked to leave the classroom and to be dropped from a class if failure to wear a mask occurs more than once in that class. Students and employees who do not wear a mask in classrooms and other indoor public spaces on UNM campuses are subject to disciplinary actions. **Medical/health grade masks are the best protection against the omicron variant and these masks should be used, rather than cloth.**

#### Syllabus Language: COVID-19 Symptoms and Positive Test Results:

Please do not come to a UNM campus if you are experiencing symptoms of illness, or have received a positive COVID-19 test (even if you have no symptoms). Contact your instructors and let them know that you should not come to class due to symptoms or diagnosis. Students who need support addressing a health or personal event or crisis can find it at the [Lobo Respect Advocacy Center](#).

The instructor will try to have a few disposable masks available in the classroom on a first-come, first-served basis.

**CURE:** This semester, this section will be completing a CURE (Course-based Undergraduate Research Experience). The goal of this program is to increase exposure of research to more undergraduate students than are typically able to have traditional research experiences. Research has shown many benefits to these experiences including improved retention, increased sense of belonging and an increased interest in science. During this semester, working in groups, each group will complete a research project that will aim to uncover novel information in the field of biology. This project will be composed of four phases:

- 1.) Prep: Background research to define a problem that you will investigate this semester. - proposal
- 2.) Plan: Design an experiment that you will conduct.
- 3.) Analyze: Interpret the data that you collect in your experiment.
- 4.) Present: Share your findings with the class and a broader population of students and faculty.

During the semester, you will be guided by your instructor in how to carry-out each step. I will aid you in all of these phases to make sure that your project is doable, that you are managing your time well, and that you are using proper means to address your problem and analyze your data.

CURE learning Map:

Learning Goals:	Learning Objectives:	Evidence from Learning Activities
1.) Gain necessary skills in implementing the scientific method.	1.) Students will be able to find and critique relevant literature for a given topic.	1.) Prepare a bibliography for their research posters. 2.) Literature scavenger hunt.

Learning Goals:	Learning Objectives:	Evidence from Learning Activities
2.) Gain appreciation for modern biological research methods	1.) Students will be able to use the next-generation sequencer. 2.) Students will be able to complete the preparation of samples for sequencing. 3.) Students will be able to analyze and interpret results of next-generation sequencing of environmental samples.	1.) Collection of environmental samples. 2.) Preparation and description of the processes occurring in the preparation of environmental samples for next-generation sequencing. 3.) Description of how next-generation sequencing works and comparing that to dideoxy sequencing.
3.) Share knowledge gained to a broader population.	1.) Students will be able to prepare an organized and clear poster of their project. 2.) Students will be able to succinctly describe their research project.	1.) Poster session. 2.) Group assessment. 3.) Peer assessment.

**Problem sets:** Weekly problem sets will be given out to reinforce class topics and to prepare you for in-class quizzes and exams.

**Class Participation:** Class participation; both in whole-class discussions and group work are essential to this course. As such, 60 of your 900 points possible in the course will come from class participation. These points will be allotted based on: Regular attendance, being engaged in classwork, actively taking notes in class, and completion of group activities.

**Exams:** 4 exams will be given. The first 3 will be worth 100 points each. The final exam will be cumulative, comprised of new material covered since the third midterm as well as all previous material. The final exam will be worth 150 points.

**Quizzes:** 11 quizzes will be given during the semester. There will be one in the class period after the completion of each chapter. They will be designed as exam prep, to prepare you for the types of questions on the forthcoming exams. These are worth 10 points each with the lowest quiz score dropped.

**Course Grading Policy:** Lecture grades will be based on the percentage of points earned (100% or higher = A+, 99-91% = A, 90% = A-, 88-89% = B+, 87-81% = B, 80% = B-, 79-78% = C+, 77-71% = C, 70% = C-, 69-68% = D+, 67-61% = D, 60% = D-, < 60% = F.

- 100 points: Homework assignments (10 assignments @ 10 points each)
- 60 points: In class activities/class participation/Attendance
- 100 points: Quizzes (10 quizzes @ 10 points each)
- 300 points: Exams (3 exams @ 100 points each)
- 150 points: Cumulative final exam
- 200 points: CURE project
  - 20 points background literature
  - 30 points proposal
  - 30 points: Poster Draft
  - 50 points: Poster

- 40 points: Poster demonstration
- 30 points: Peer evaluation
- = 900 Total points

Week	Subjects covered	CURE work/ Quizzes
1/18/22	Course Introduction & Ch. 11 part 1	
1/20/22	Chapter 11: Cell-Cell Interactions part 2	
1/25/22	Chapter 12: Mitosis pt. 1	Ch. 11 Quiz
1/27/22	Chapter 12: Mitosis pt. 2	
2/01/22	Chapter 13: Meiosis pt. 1	Ch. 12 Quiz
2/03/22	Chapter 13: Meiosis pt. 2	CURE proposal draft
2/08/22	Exam Review	Ch. 13 Quiz
2/10/22	Exam 1: Chapters 11-13	CURE proposal
2/15/22	Chapter 14: Mendelian genetics part 1	
2/18/22	Chapter 14: part 2	
2/22/22	Chapter 15 part 1	Ch. 14 Quiz
2/25/22	Chapter 15 part 2	CURE: Introduction
3/01/22	Chapter 16: part 1	Ch. 15 Quiz
3/03/22	Chapter 16: part 2	
3/08/22	Exam 2 Review	Ch. 16 Quiz
3/10/22	Exam 2: Chapters 14-16	
3/15/21	<b>Spring Break: No Class</b>	
3/17/21	<b>Spring Break!</b>	



3/22/22	Chapter 17 part 1	
3/24/22	Chapter 17 part 2	
3/29/22	Chapter 18 part 1	Ch. 17 Quiz
3/31/22	Chapter 18 part 2	M & M Draft
4/05/22	Chapter 19 part 1	Ch. 18 Quiz
4/07/22	Chapter 19 part 2	R & D Draft
4/12/22	Exam 3 Review	Ch. 19 Quiz
4/14/22	Exam 3: Chapters 17-19	
4/19/22	Chapter 20 part 1	Poster Draft
4/21/22	Chapter 20 part 2	
4/26/22	Chapter 21 part 1	Ch. 20 Quiz
4/28/22	Chapter 21 part 2	Final Poster
5/03/22	Lecture Review	Ch. 21 Quiz
5/05/22	Poster Prep	Poster Session
5/12/2022	<b>Cumulative Final Exam (9:00-11:00)</b>	

\* Instructor reserves the right to alter course schedule and assignments as the semester progresses. Students will be given advance notice (at least 1 week) of any change in dates of quizzes, homework assignments, or exams.

Thank you for registering for Biology 2410c at UNM-VC. I am very excited to be here to help you continue your education and achieve your goals.