Biology 860: CONCEPTS OF GENETICS Fall 2023

Instructor: Dr. Kimberly A. Carlson Office: Bruner Hall of Science, Room 223

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Contact Hours: M-F: 9:00 am to 5:00pm central standard time (CST). I teach on-campus classes MWF - 9:05-9:55am CST & everyday starting October from 1:25-2:15pm CST.

Course Materials:

Required Texts: Genetics: A Conceptual Approach (5th Edition), by Benjamin A. Pierce, ISBN

978-1-4641-0946-1

Recommended Texts: Solutions and Problem Solving Manual to accompany the text by Choi

and McCallum, ISBN #978-1-4292-3254-8

Lectures: All lectures are on Canvas.

Announcements, assignments, tests, and quizzes: All information for this class will be available on Canvas (http://canvas.unk.edu). You should use Google Chrome to use Canvas.

Email: All students must use their UNK email account so that I can reach them.

NOTE: The materials on the course website are only for the use of students enrolled in this course for purposes associated with this course and may not be retained or further disseminated. The materials on the course website may be protected by copyright, and any further use of this material maybe in violation of Federal copyright law.

Course description: Application based course covering the classical and molecular principles of inheritance. Concepts covered include various historical concepts surrounding transmission, molecular, and population genetics, current state of the discipline, and the future outlook for the field. Students are required to demonstrate their knowledge and critical thinking skills through quizzes, tests, and writing assignments. Offered online, Fall of odd-numbered years.

Course Objectives:

- 1. To gain a broad understanding of the applications of classical & molecular genetics.
- 2. To understand Mendelian inheritance, gene interactions, and genetic transmission.
- 3. To understand the organization of genetic material and the role each plays in inheritance.
- 4. To understand advanced topics of genetics.

Students will achieve these objectives through video lectures, mini-assignments, quizzes & tests.

Grading Scheme:

	Points	Due Date
Exam 1	100	Friday, September 22 nd by 8:00 am CST
Exam 2	100	Friday, November 3 rd by 8:00 am CST
Exam 3	100	Wednesday, December 13th by 8:00 am CST
Mini-Assignments	50	Friday of week assigned by 8:00 am CST
Quizzes (10 @ 10 pts each)	100	Friday of week assigned by 8:00 am CST
Total Points	450	

Grade assignment: Grades will be assigned using the standard grading scale for the Department of Biology, as follows: A (93-100%), A- (90-92%), B+ (88-89%), B (83-87%), B- (80-82%), C+ (78-79%), C (73-77%), C- (70-72%), D+ (68-69%), D (63-67%), D- (60-62%), and F (below 60%). FYI, I do not round up grades. Therefore, if you have an 82.6%, you have earned a letter grade of a B-, not a B. Grade assignments are final unless there is a calculation error. Also, 1% point is = 4.5 points.

Schedule: This class is a graduate level class. I assume all of you have had a Biology course that covered introductory genetics at some point in your career. Therefore, some introductory material will not be covered in depth, but is presented in the text. Some chapters will not be covered in their entirety and chapters may be combined for lectures. Only the portions of the chapters covered in lecture will be on quizzes or tests. Some lecture material is not covered in the book, therefore watching the tapes and taking notes using the fillable outlines will be helpful. The quizzes and exams are listed below. This schedule is subject to change. The schedule is listed for Monday-Sunday for ease of listing, but lectures for the week are released the Saturday before, as are the quizzes. All tests, quizzes, and mini-assignments are due on the Friday of the week listed! Late papers will not be accepted under any circumstances.

Week	Lecture	Quiz/Test
Dates are Mon-Sun		
#1	Chapters 1 & 2	No quiz or test! Introduce yourself (due by
8/21-8/27	-	8:00 am CST on 8/25)
#2	Chapter 3	Timed quiz #1 over Chapters 1 & 2 (due
8/28-9/3		by 8:00 am CST on 9/1)
#3	Chapter 4 & 6	Timed quiz #2 over Chapter 3 (due by
9/4-9/10		8:00 am CST on 9/8)
#4	Chapter 5	Timed quiz #3 over Chapters 4 & 6 (due
9/11-9/17		by 8:00 am CST on 9/15)
#5		Exam #1 (Ch. 1-6)
9/18-9/24		Due 9/22 by 8:00 am CST
#6	Chapters 7 & 9	No quiz or test!
9/25-10/1		
#7	Chapter 10 & 12	Timed quiz #4 over Chapters 7 & 9 (due
10/2-10/8		by 8:00 am CST on 10/6)
#8	Chapter 11	Timed quiz #5 over Chapters 10 & 12
10/9-10/15		(due by 8:00 am CST on 10/13)
#9	Chapter 13 & 14	Timed quiz #6 over Chapter 11 (due by
10/16-10/22	01 1 1 0 10	8:00 am CST on 10/20)
#10	Chapters 15 & 16	Timed quiz #7 over Chapters 13 & 14
10/23-10/29		(due by 8:00 am CST on 10/27)
#11		Exam #2 (Ch 7,9-16)
10/30-11/5	01 1 1 0 10	Due 11/3 by 8:00 am CST
#12	Chapters 17 & 18	No quiz or test!
11/6-11/12		T: 1 : "0 OI : 17.0.10
#13	Chapter 19	Timed quiz #8 over Chapters 17 & 18
11/13-11/19	N. Olastia	(due by 8:00 am CST on 11/17)
#14	No new Chapters	No quiz or test!
11/20-11/26	Thanksgiving Break	Thanksgiving Break!!!
#15	Chapter 22	Timed quiz #9 over Chapter 19 (due by
11/27-12/3	Ohanta a 00	8:00 am CST on 12/1)
#16	Chapter 23	Timed quiz #10 over Chapter 23 (due by
12/4-12/10		8:00 am CST on 12/8)
#17		Exam #3 (Ch 17-19, 22-23)
12/11-12/13		Due 12/13 by 8:00 am CST

Exams: Exams may be composed of multiple choice, true/false, application problems, case studies, and/or short essays. I believe that genetics and science exams in general should be an application of the material learned, and not simply rote memorization. The exams are not comprehensive, in that, the questions asked will specifically address material covered since the last exam or in the case of the first exam, material since the first day of class. The material on the test will include only lecture material. These tests are a bit challenging and time consuming, which is why you have an entire week to complete them. If you have questions about the test, email me directly! Do not post questions on Canvas. If I feel it is something that needs to be shared with the entire class, I will post it on Canvas. The multiple choice/true or false portion of the exam will be taken as a timed online portion. The amount of time allotted will be announced at the time of the test. All of the questions will be given at once. If you run out of time while taking the test, you will not be given extra time. If you have a problem while taking your test, send me an email and I will deal with it as soon as possible. The computer displays a message to me that tells me what kind of problem you had, whether you took too much time or there was a computer problem. I will be available M-F from 9:00 am to 5:00 pm CST, but not constantly as I do have other teaching and research responsibilities. Everyone is expected to take all of the exams. You must take all three exams to receive full credit. If you miss an exam, you will automatically fail and receive a letter grade of an "F". The dates for the exams are listed on the schedule. For exams #1 & #2, both the online and take-home portions will be made available at 8:00 am CST on the Saturday before the Friday due date. For example, the first test will be put on Canvas at 8:00 am CST on Saturday, September 19th and you have until 8:00 am CST Friday, September 22nd to take the online portion and email the take-home portion to me. For test #3, the test will be made available on Thursday, December 7th and is due on Wednesday, December 13th at 8 am CST. THE DEADLINES ARE FINAL! THE ONLINE PORTION WILL BE REMOVED AT 8:01 AM CST ON THE DUE DATE. LATE PAPERS WILL NOT BE ACCEPTED. MAKEUP EXAMS WILL BE GIVEN ONLY UNDER EXTREME OR EXTENUATING CIRCUMSTANCES, WHICH CAN BE DOCUMENTED! In any and all cases, the final validity and acceptability of any excuse for absence are at my sole discretion.

Quizzes: Throughout the semester, you will be given ten timed guizzes worth 10 points each. The quizzes will cover only the lecture material listed for that week. For all quizzes, you will be allotted 5 minutes to answer 5 multiple choice or true/false questions. The questions will be given at one at a time with no backtracking. If we have done calculations in the lecture for a certain week, make sure to have a calculator with you. For guizzes with calculations, you will be allotted extra time. If you run out of time while taking the guiz, you will not be given extra time. If you have a problem while taking your guiz, send me an email and I will deal with it as soon as possible. The computer displays a message to me that tells me what kind of problem you had, whether you took too much time or there was a computer problem. I will be available M-F from 9:00 am to 5:00 pm CST, but not constantly as I do have other teaching and research responsibilities. Everyone is expected to take all of the guizzes. The dates for the guizzes are listed on the schedule and will be made available at 8:00 am CST on Saturday before the 8:00 am CST of Friday due date. For example, the first quiz will be put on Canvas at 8:00 am CST on Saturday, August 26th and you have until 8:00 am CST Friday, September 1st to take the quiz. THE DEADLINE IS FINAL! THE QUIZ WILL BE REMOVED AT 8:01 AM CST ON THE FRIDAY DUE DATE. The purpose of these guizzes is to make sure that you are keeping up with the course material.

Mini-Assignments: The material for this class is from the lectures I have taped. The textbook is a reference for you. If there is a discrepancy between the lectures and the book, you should defer to the lecture material. If there is a question, always make sure to ask. To make sure that you are understanding and keeping up with the lecture material, I have embedded questions into the taped lectures. You will need to watch the lectures to find the mini-assignment. These will be worth from 5-10 points each. Not every lecture will have a mini-assignment. These will be due by 8 am CST on the

Friday in the week they are assigned in the lecture. The first mini-assignment is your introduction that must include a video of you speaking. This is due Friday, August 25th by 8:00 am CST. Mini-assignments cannot be made up and late submissions will not be accepted. All mini-assignments, with the exception of the introduction video, must be emailed to me at carlsonka1@unk.edu and NOT posted on Canvas. Do NOT ask questions about these mini-assignments on Canvas.

Discussion Boards: For those of you who have taken an online class before, there is no graded discussion board for this class. There will be a discussion board available for you to discuss the lecture material. This is for your use to ask questions and discuss with your classmates, if you wish, but it will not count as part of your grade and is therefore not a mandatory part of this semester's class, with the exception of your introductory post, which is your first mini-assignment. I will regularly check the discussion board and participate in discussions. If you have a question that you want a quick answer to, email me directly and I will get back to you as soon as possible. **Do not post questions about quizzes, tests, or mini-assignments on Canvas!**

Plagiarism and cheating: Neither will be tolerated! Anyone caught plagiarizing any exercise or cheating on any exercise will receive a 0 for that exercise. If there are subsequent violations, this will result in referral to the Senior Vice Chancellor for Academic Affairs for dismissal from the university.

Bonus Points/Extra Credit: I don't give these in Graduate classes, please don't ask.

Attendance Policy

Your instructor may have indicated on their syllabus an attendance policy specific to their class. If so, that is the policy with which you must comply. If no other policy is stated, the University-wide attendance policy will apply (<u>Undergraduate Student Attendance Policy</u>; <u>Graduate Student Attendance Policy</u>).

Academic Honesty Policy

Academic honesty is essential to the existence and integrity of an institution of higher education. The responsibility for maintaining that integrity is shared by all members of the academic community. To further serve this end, the University of Nebraska at Kearney has a policy relating to academic integrity. <u>Undergraduate Academic Integrity Policy</u>; <u>Graduate Academic Integrity Policy</u>

Finals Week Policy

The final exam will be administered in the time period scheduled during finals week in accordance with University policy (<u>Final Exam Schedule</u>). More information about UNK's Finals Week Policy, including when it is appropriate to ask for special accommodations to move a course's final exam, can be found here: Finals Week Policy.

Reporting Student Sexual Harassment, Sexual Violence or Sexual Assault

Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes they may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

- Local Domestic Violence, Sexual Assault Advocacy Agency 308-237-2599
- Campus Police (or Security) 308-865-8911
- Title IX Coordinator 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

Students with Disabilities

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability, students must be registered with the UNK Disabilities Services for Students (DSS) office, 175 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu

Students Who are Pregnant

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact the Student Health office at 308.865.8218. The following links provide information for students and faculty regarding pregnancy rights. https://thepregnantscholar.org/title-ix-basics/; https://nwlc.org/resource/faq-pregnant-and-parenting-college-graduate-students-rights/

UNK Statement of Diversity & Inclusion

UNK stands in solidarity and unity with our students of color, our Latinx and international students, our LGBTQIA+ students and students from other marginalized groups in opposition to racism and prejudice in any form, wherever it may exist. It is the job of institutions of higher education, indeed their duty, to provide a haven for the safe and meaningful exchange of ideas and to support peaceful disagreement and discussion. In our classes, we strive to maintain a positive learning environment based upon open communication and mutual respect. UNK does not discriminate on the basis of race, color, national origin, age, religion, sex, gender, sexual orientation, disability or political affiliation. Respect for the diversity of our backgrounds and varied life experiences is essential to learning from our similarities as well as our differences. The following link provides resources and other information regarding D&I: https://www.unk.edu/about/equity-access-diversity.php