Genetics - Biology 202L Section 501 (CRN 38355)
Syllabus for Spring 2016 Semester
Dr. Claudia Barreto

Office Hours: ***You're welcome to attend office hours so I can help you succeed.*** My office is room 100A in the Health Sciences Building. You do ***not*** need an appointment to come to my regularly scheduled office hours on Mondays 10:30-11:30am & 1:00-2:30pm, Wednesdays 7:30-8:30am & 10:30-11:30am, & Thursdays 10:30-11:30am. *If you have a conflict at these times, please contact me by email (barr@unm.edu) so we can schedule an alternate time to meet.*

Class Meets: Tuesdays & Thursdays 9:00-10:15am in A133.

Lab/Discussion Meets: Tuesdays from 10:30-11:45am A135. *Successful completion of all lab/Discussion learning activities is required to pass the course.*

Learning Objectives: By the end of the semester, ***you should be able to demonstrate that you understand and can accurately & comprehensively EXPLAIN, in your own words***:

- The purposes, processes, and outcomes of nuclear division by mitosis and meiosis
- Patterns of inheritance, including:
  - Mendel's law of segregation
  - Mendel's law of independent assortment
  - Punnett Square analysis
  - Extensions of Mendel's rules
    - Gene linkage
    - Allele & gene interactions in inheritance
    - Sex determination & sex-linked inheritance
- The structure & functions of DNA
- Gene expression & how it is controlled
- Principles of biotechnology/bioengineering
- Applications of genetics in the biomedical sciences
- Genomics
- Principles of Development

Required Learning Resources:

1. Biological Science Volume 1 by Freeman, Quillin, & Allison, 5th edition, 2014, Pearson Education, Inc. *** with Mastering Biology *** Chapters 1-24. ISBN-10: 0321841808 | ISBN-13: 978-0321841803. MAKE SURE YOU GET ACCESS to MasteringBiology with your text because there will be assignments you need to complete at that site.
2. Course WebPage on 'UNM Learn' (https://learn.unm.edu/). Our course webpage contains *all* the information & helpful resources you'll need to succeed in the course. *You are responsible for all announcements & any changes to the syllabus posted on the webpage.* If you need *any* help using BlackBoard, please let me know right away.
3. Class Email Reflector: I will send important course information over our reflector. *You are responsible for all announcements and any changes to the syllabus sent over the reflector,* so please check your UNM email for announcements frequently.

Proposed Plan of Study

DATE	ASSIGNMENTS TO *PREPARE* FOR TODAY'S CLASS	TODAY'S CLASS TOPIC
JAN. 19		COURSE OVERVIEW & MITOSIS (12-1)
21	Complete Ch. 12 Learning Module (LM) Assignment A	THE CELL CYCLE (12-2)
26	Complete Ch. 12 LM Assignments B-C Complete Ch. 13 LM Assignments A	THE CELL CYCLE: CANCER (12-3)
26 L/D	*Complete Ch. 13 LM Assignment B*	***MEIOSIS (13-1)***
28	***Read & Study the Meiosis Section of "Mitosis & Meiosis Simulations" Handout*** **Complete Ch. 12 LM Assignment D**	***MEIOSIS SIMULATION***
FEB. 02	Complete Ch. 13 LM Assignment C **Complete Ch. 13 LM Assignment D**	MEIOSIS & NATURAL SELECTION (13-2)
02 L/D	***Complete Ch. 14 LM Assignment A***	***MENDEL & THE GENE (14-1)***
04	***Study Punnett Squares (LM 14 part C)*** **Complete Ch. 13 LM part D**	***GENETICS PROBLEMS 1***
09	Complete Ch. 14 LM Assignment B	CHROMOSOME THEORY (14-2)
11	Complete Ch. 14 LM Assignment C	BEYOND MENDEL (14-3)
16	Complete Ch. 14 LM Assignment D	REVIEW SESSION & QUIZ #1
18	**Review Ch. 12-14 to Study for Exam #1**	**Exam #1**
23	Complete Ch. 15 LM Assignments A-B	DNA SYNTHESIS & REPAIR (15-1)
25	Complete Ch. 15 LM Assignments C	DNA SYNTHESIS & REPAIR (15-2)
MAR. 01	Complete Ch. 15 LM Assignment D ***&*** Complete Ch. 16 LM Assignments A-C	HOW GENES WORK (16)
03	Complete Ch. 16 LM Assignment D	REVIEW SESSION & QUIZ #2
08	**Review Ch. 15 - 16**	**EXAM #2**
08 L/D	*Complete Ch. 17 LM Assignment A*	***TRANSCRIPTION (17-1)***
10	Complete Ch. 17 LM Assignments B-C	TRANSLATION (17-2)
	SPRING BREAK	
22	Complete Ch. 17 LM Assignment D Complete Ch. 18 LM Assignments A-B	CONTROL OF GENE EXPRESSION (18-1)
24	Complete Ch. 18 LM Assignment C	PROKARYOTIC GENE EXPRESSION (18-2)
29	Complete Ch. 18 LM Assignment D ***&*** Ch. 19 LM Assignment A	EUKARYOTIC GENE EXPRESSION (19-1)
31	Complete Ch. 19 LM Assignments B-C	EUKARYOTIC GENE EXPRESSION (19-2)
APR. 05	Complete Ch. 19 LM Assignment D	REVIEW SESSION & QUIZ #3
07	**Review Ch. 17 - 19**	**EXAM #3**
12	Complete Ch. 20 LM Assignment A-B	GENETIC ENGINEERING (20-1)
14	Complete Ch. 20 LM Assignment C	GENETIC ENGINEERING (20-2)
19	Complete Ch. 20 LM Assignment D ***&*** Complete Ch. 21 LM Assignments A-B	GENOMICS (21-1)
21	Complete Ch. 21 LM Assignment C	GENOMICS (21-2)
26	Complete Ch. 21 LM Assignment D ***&*** Complete Ch. 22 LM A	PRINCIPLES OF DEVELOPMENT (22-1)
28	Complete Ch. 22 LM B-C	PRINCIPLES OF DEVELOPMENT (22-2)
MAY 03	Complete Ch. 22 LM D Complete Ch. 23 LM A-C	INTRODUCTION TO ANIMAL DEVELOPMENT (23)
05	Complete Ch. 23 LM D ***&*** Review Ch. 20 - 23	REVIEW SESSION & QUIZ #4

WE ARE REQUIRED TO TAKE EXAM #4 ON TUESDAY, MAY 10TH 8:30-10:30AM

COURSE POLICIES:

LEARNING MODULES: Learning modules are ***designed to help you focus on key concepts and to serve as useful study tools***. If you **conscientiously complete all the activities** described in each leaning module, you will have no trouble succeeding in the course. They state the learning objectives for each chapter and have activities & assignments that will allow you and me to determine if you have mastered the material before taking an exam or quiz. **Complete each part of the Learning Module on the date specified.** *Don't put things off!!* You need to keep up with your studying to perform your best. Notice that each Learning Module includes "Review Questions" (Part D of Assignments) to help us see if you really understanding the key concepts. **MAKE SURE YOU ANSWER THE REVIEW QUESTIONS IN YOUR OWN WORDS**. Copied answers will ***not be accepted*** because they won't let us determine if *YOU* understand the key concepts and processes. You can earn up to 40 points for correctly completing each set of review questions. You must turn in the assignment on the date specified to earn credit.

GRADING: Course grades are based on your performance in class *and* lab/discussion. Your achievement of the course learning objectives will be determined from four, equally weighted class exams (150 points each = 600) and quizzes (30 points each = 120), your responses to the Learning Module Part D Review Questions (12 sets @ 40 points each = 480), your daily participation in class (58), and completion of all lab learning activities (435). **ALL *assignments must be turned in before the start of class on the date indicated to earn credit.*** There is no curve in the grading for this course. **Please comprehensively complete all components of our Learning Modules to master the material you need to understand to perform your best on assignments, quizzes, & exams. *You are welcome to attend my office hours so I can help you achieve the learning objectives.*** Successful completion of all course requirements = 1693 possible points. To calculate your course grade, apply the following formula:

(Class Points + Lab Points) / 1643.

100% or higher = A+; 91-99% = A; 90 = A-; 89% = B+; 81-88% = B; 80 = B-; 79% = C+; 71-78% = C; 70 = C-; 60-69% = D; below 60% = F

STUDENTS WITH SPECIAL NEEDS: Students with disabilities/special needs should please come speak to me during office hours, as soon as possible, so I can best accommodate your achievement of the learning objectives for this course.

ATTENDANCE POLICY: Attendance is necessary for you to participate in class as well as to fully understand the material covered. You are responsible for "signing in" to document *your attendance* (**= getting to class on time, remaining for the entire class period & actively participating in all class learning activities**). Unless otherwise advised, after four absences you can be dropped from the course.

MISSED EXAM/QUIZ POLICY: Official documentation of an emergency is required. In such an event, contact me as soon as possible to discuss the problem. An un-excused absence will result in loss of points for that exam/quiz.

ACADEMIC MISCONDUCT: In this course you are expected to perform to the best of your ability in an honest manner. Cheating, plagiarism (= copying the work of others), or other acts of misconduct will result in a severe penalty to you, as per university policy.