



Biological Sciences
BIOL301 Principles of Genetics 001 CRN: 44247
Spring 2019

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# **Faculty Information**

Instructor	Zeynep Ozsoy
Office	WS211C
Phone	(970) 248 1595. When leaving a message please be sure to leave your name, complete phone number, course number or title you are calling about, and the reason you are calling.
Email	aozsoy@coloradomesa.edu
Office Hours	Monday: 10:30-11:30am, Tuesday 8:30-9:30am and 11:30-noon, Wednesday noon-1:30 pm and Friday 8-9:00 am. If these hours do not fit your schedule, please contact me before/after class or via email and we can find a time that will be suitable for both of our schedules.
Communications Policy	For any concerns or questions you can talk to me before or after class, stop by my office or email me. I usually check my email every day and respond within 24 hrs during the week and 48 hours during the weekends.

### **Course Information**

Course Title	BIOL301: Principles of Genetics, Section 1. CRN:44247	
Class Time	MWF 9 am – 9:50 am	
Classroom	WS264	
Prerequisites	BIOL105 and Math113	
Drop Date	February 6 <sup>th</sup> , 2019	
Credit Hours	3	
Lecture Hours	3	

# **Course Catalog Description**

Welcome to Genetics! Genetics is interesting, stimulating, challenging and fun. The material that is covered in this course will provide the fundamental knowledge to understand biological issues such as cloning, molecular forensics, cancer and more. In this course you will learn about:

- How genetic traits are passed on from one generation to the next
- How and why siblings from same parents are usually different
- The structure and function of DNA
- How DNA makes what we are
- How mutations affect us
- How cells regulate their gene expression based on the conditions
- How to predict the trend of a genetic trait in a population
- ❖ And the biotechnology methods that allow us to investigate genetic questions.

This is face-to-face course that uses a web-based course site to support the classroom environment.

### **Required Text and Supplies**

*Genetics: a Conceptual Approach* 6<sup>th</sup> Edition by Benjamin A. Pierce (ISBN 978-1-319-10844-1 or 978-1-319-12595-0) with **access to Sapling**.

#### Lesson/Instructional Materials

The textbook is required. You have the option of getting Sapling which gives access to the eBook. If you are like me and like the hard copy, the bookstore should have loose leaf version of the textbook, but you can also buy the hardcover as long as you have access to Sapling. I will also give you access to the syllabus and any other class related information I post (quizzes, study guides, handouts and Power Point file of lectures) on Desire2Learn (D2L). Desire2Learn allows you to access your grades in a secure manner.

The material will be based on the four exams that you will be taking during the semester, online reading quizzes, online chapter assignments and a research article discussion.

I strive for your success in class. Here are some suggestions that will ensure your success throughout your college career: <a href="http://www.coloradomesa.edu/academics/documents/StudentSuccessatCMU\_WCCC.pdf">http://www.coloradomesa.edu/academics/documents/StudentSuccessatCMU\_WCCC.pdf</a>

## **Student Learning Outcomes**

Upon satisfactory completion of this course, the student should be able to:

- 1) demonstrate a broad, comprehensive knowledge of the main areas of biology (including evolution, diversity, ecology, cell biology and genetics) and the ability to apply this knowledge to address new questions.
- 2) demonstrate the ability to critically search, read, evaluate and discuss primary literature.

# **Methods of Evaluation/Grading Policy**

Your grade in this class will be determined by the exams, online reading quizzes, online chapter assignments and a research article discussion. In addition, you will have few chances to get up to 10 **extra credit** points. For up to a possible 5 **extra credit** points you will have the option of preparing a project that summarizes, or accentuates a concept/process that we cover in class. As everyone is different in talents I will leave the presentation method up to you.

Come talk to me if you have any questions or need ideas. In addition, you will also have a chance to get **extra credit points** if you read/hear recent news that are relevant to what we cover in class. In order to receive full 2 credit points, you need to describe the recent finding in the news and how it is connected to our lecture material (and be able to answer basic questions about this topic). Please note that extra credit items should be completed before the last week of classes and you need to run them by me before presenting to the class. We will determine a time that is available for presenting.

Grade Items	Point Breakdown	Points of Final Grade	
Comprehensive Final Exam (1)	1 x 100 pts =	100 pts*	
Midterm Exams (3)	3 x 100 pts =	300 pts	
Paper discussions (1)	1 x 10 pts =	10 pts	
Online chapter assignments (15)	Varies with each homework	45 pts	
Online reading quizzes (15)	15 x 3	45 pts	
Total		500 pts	

GRADING	SCALE	
А	500-450 pts	
В	449-400 pts	
С	399-350 pts	
D	349-300 pts	
F	Under 300 pts	

<sup>\*</sup> See the testing statement for more info on the final

## **Online assignments:**

Online reading quizzes will be due at different times during the semester. Please check the semester schedule to find out when we will be covering each chapter. The reading quizzes will be due prior to the start of each chapter. The online chapter assignments will be always due on Friday before the exams (the exams are generally on Wednesdays).

## **Testing Statement**

There will be 4 exams: 3 midterms and 1 final. Please make every effort to attend the exams as scheduled. **Make-up exams will NOT be given** (unless (i) you were seriously ill – then I will require a note from your doctor, or (ii) you are an athlete and had to be gone for a game – in which case you will need to contact me at least **2 weeks before** the exam or (iii) death in close family – in which case you will need to provide me with documentation). **The final is cumulative** and will cover all the material that you learn during the semester. If your final grade is higher than one of your midterm exams, that midterm score will be dropped and the final will be counted as double.

I will give out **study guides** a week prior to each exam – please take advantage of this outline/points to go over your notes, book, homeworks and other material we use throughout the semester!

# **Attendance Policy**

You are required to attend the lectures; the material covered in the lectures is what you will be responsible for the exams. So it is for your benefit to come to class and follow the material that you will be responsible for. Additionally if you miss less than 3 lectures during the semester and your overall grade is within a percentage point of a higher letter grade, for example 79.2, I will bump you to the higher letter grade, in this example to a B.

**One-Minute Papers:** As a method of attendance taking I will ask you after each lecture to fill out a small sheet of paper with the following information:

- 1- Your name
- 2- Date
- 3- What did you learn during today's lecture?
- 4- What did you NOT understand during today's lecture?

### **Course Correspondence**

All communication in this course will be made via **your CMU email** account. Please include the title of the course and section number in the subject line (BIOL 301). Check your email regularly throughout the semester. I will respond within 24 hours during the week and 48 hours on weekends—if you have sent an email and have not heard back within a day, check the email address you have used, and send another one with subject line "SECOND TRIAL" sometimes I get so many emails that I may overlook one.

## **Plagiarism and Academic Integrity**

Students are expected to adhere to the policies on academic integrity described in the Maverick Guide. See the link at: http://www.coloradomesa.edu/student-services/documents/MaverickGuide.pdf

#### **Class Manners**

You are expected to be respectful to your classmates and me. This includes not chatting and not disturbing your surroundings with any kind of noise. Please turn off or silent your cell phone before the class starts. If your actions become disruptive to the class environment you will be asked to leave after one warning.

## **Technical Help**

If you experience a technical problem, call the Help Desk at (970) 249-2111 to receive technical support in the following areas:

- Usernames and passwords
- Desire2Learn
- MavZone
- Microsoft Office products
- Connecting to the wireless network
- Desktop computer hardware installation and troubleshooting
- Desktop software installation and troubleshooting
- Network file storage

#### Withdrawal Statement

Regular class attendance is expected. CMU is required by law to verify the enrollment of students who participate in Federal Title IV student aid programs and/or who receive educational benefits through other funding sources. CMU is responsible for identifying students who have not attended or logged into a class for which they are registered. At the conclusion of the first week of a semester, instructors will report any registered students who have "Never Attended" a class so that those reported students will be administratively withdrawn from that class. However, it is the student's responsibility to withdraw, using the appropriate CMU form, from any class which she/he is no longer attending or risk receiving a failing grade in that class. Student's wishing to withdraw must complete and submit the appropriate CMU form by the established withdrawal deadline.

#### **General Student Services**

**Educational Access Services**: If you are a student with a documented physical or learning disability and need an accommodation for this class, you must contact the Educational Access Services Office, 248-1801, at the start of the semester.

The **Tutorial Learning Center** (TLC) is a <u>FREE</u> academic service for all Colorado Mesa University students. Tutors are available on a walk-in basis for many courses. Do you have a quick question? Do you need homework clarification or feedback on a paper? Are you reviewing for a test? Help is available at the TLC!

At the main campus, come to Houston Hall 113 to meet with one of our friendly peer tutors. We are open on Monday through Thursday from 8am-6pm and Fridays from 8am-5pm. We are also open Sundays from 1pm-6pm! Tutoring at branch campuses and distance tutoring is also available. Check out the website for schedules and locations at <a href="https://www.coloradomesa.edu/tutoring">www.coloradomesa.edu/tutoring</a> or call (970) 248-1392 with any questions.

**New Writing Center** serves students across all disciplines and various stages of the writing process providing support for students to assimilate into the writing conventions of the university and their specific academic disciplines.

**Tutoring Center Houston 113** 

Writing Center Houston 233

Hours of operation

Hours of operation

8:00-5:00 pm M-T

10:00-5:00 pm M-T 10:00-5:00 F

Friday 8:00-5:00 pm

Workshops for students

Sunday 1:00-6:00 pm

**English Language Learner small group writing** 

Instructors can reserve writing center

#### • Research Assistance at the Tomlinson Library:

CMU's professional librarians are an excellent resource for helping you to find the best research to support your academic work, evaluate articles and electronic information, and cite the articles and images that you use in your papers. We are here for you!

Find us: in the Library at the Research Help Desk Mon-Thurs 8am-9pm, Fri 8am-5pm, Sat 10am-5pm, and Sun 1-9pm; via online chat 24/7 at <u>coloradomesa.edu/library</u>; by email at <u>library@coloradomesa.edu</u>; or by calling 970.248.1860.

- **Student Services**: The Office of Student Services works to support CMU students in all aspects of college life, by offering a vast array of services, resources and programs that make each student's time at Colorado Mesa University as exciting and successful as possible. Student Services works collaboratively with faculty, students, and staff to create a campus community that fosters the growth of students as strong individuals and productive citizens. To learn more, go to <a href="http://www.coloradomesa.edu/studentservices">http://www.coloradomesa.edu/studentservices</a>.
- **Financial Aid**: Financial aid staff is dedicated to assisting you in sorting through the various forms of student financial aid. We believe that by helping you take advantage of a variety of available resources, you will find an education at Colorado Mesa University is attainable. Our office is located in the lower level of Lowell Heiny Hall, Room 116. Our phone number is (970)248-1396, or you may contact us via email at <a href="mailto:financialaid@coloradomesa.edu">financialaid@coloradomesa.edu</a>
- Advising Center: Advisors can assist students with course selection and registration, major exploration, and identifying strategies for academic success. The Advising Center is committed to promoting academic success and in facilitating students to attain their educational goals. We are located in Lowell Heiny Hall, on the lower level, room 127. Our phone number is (970)248-1177, or toll free at 1-800-982-6372 (option #7 or extension 1177). Our FAX number is (970)248-1267. You can also reach us via email at <a href="mailto:advising@coloradomesa.edu">advising@coloradomesa.edu</a> Appointments are scheduled from 9:00 to 4:00, Monday through Friday. Please call a week or two in advance of your desired appointment date to schedule. Bring your picture ID, as failure to do so may result in a rescheduled appointment.
- **Business and Financial Services Office:** The Business and Financial Services Office is located in the lower level of Lowell Heiny Hall. Our staff is available to assist you Monday through Friday from 8:00 am to 5:00 pm, MST. Our phone number is (970)248-1567, our FAX number is (970)248-1136, or you may contact us via email at <a href="mailto:businessoffice@coloradomesa.edu">businessoffice@coloradomesa.edu</a>

### **Course Schedule**

THE FOLLOWING SCHEDULE IS A TENTATIVE ONE AND CAN (AND WILL MOST LIKELY) BE MODIFIED BY THE INSTRUCTOR.

Week of	Material	Chapters	Exams
January 21st	Introduction, Cell cycle	1,2	
January 28 <sup>th</sup>	Cell Cycle, Mendelian genetics	2, 3	
February 4 <sup>th</sup>	Extensions to Mendelian genetics	5,4	
February 11 <sup>th</sup>	Sex determination/sex-linked characteristics, Alteration in chromosome number and structure,	4,8	
February 18 <sup>th</sup>	Pedigrees, genetic testing	6	
February 25 <sup>th</sup>	Linkage, Recombination	7	
February 27 <sup>th</sup>			1 <sup>st</sup> Exam
March 4 <sup>th</sup>	Gene mapping, Bacterial and Viral Genetics	7, 9	
March 11 <sup>th</sup>	History of DNA structure, chromosome structure	10,11	
March 18 <sup>th</sup>	SPRING BREAK – YAAAY!		
March 25 <sup>th</sup>	DNA replication	12	Paper discussion
March 27 <sup>th</sup>			2 <sup>nd</sup> Exam
April 1 <sup>st</sup>	Transcription/RNA processing	13,14	
April 8 <sup>th</sup>	Genetic Code/Translation	15	
April 15 <sup>th</sup>	Mutations/DNA repair	18	
April 22 <sup>nd</sup>	Gene Expression in Prokaryotes	16	
April 29 <sup>th</sup>	Catch up		
May 1 <sup>st</sup>			3 <sup>rd</sup> Exam
May 6 <sup>th</sup>	Population Genetics	25	
May 15 <sup>th</sup>	8:00 am		FINAL EXAM