

THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
Department of Biological Sciences

Course #: BIOL 3320 CRN# 11241
Course Title: Genetics
Credit Hrs: 3
Term: Fall 2021
Course Meetings & Location: Mondays & Wednesdays 3:00–4:20 PM, UGLC #128
Prerequisite Courses: BIOL 1305-1107; BIOL 1306-1108
Instructor: Professor Eli Greenbaum, Ph.D.
Office Location: Biology 301 (between Classroom & Biosciences Buildings).
Contact Info: Phone # 747-5553; Fax # 747-5808
E-mail address: egreenbaum2@utep.edu
Please do not email me on Blackboard- I will not see your email
Emergency Contact: (Cell) 785-393-3583 *emergencies only please*
Office Hrs: Tuesdays 12:30-3:30 PM (subject to change based on weekly schedules)
Textbook(s), Materials: Required: Pierce, Benjamin A. 2020. *Genetics: A Conceptual Approach*. 7th Edition. Macmillan Learning, ISBN: 1319216803. Ebook comes with **required Achieve subscription** for about \$100 at: <https://achieve.macmillanlearning.com/start>

Greenbaum, E. 2017. *Emerald Labyrinth: A Scientist's Adventures in the Jungles of the Congo*. ForeEdge (imprint of University Press of New England), ISBN 1512600970. PDF version available free of charge at UTEP library website.

Course Objectives (Learning Outcomes): At the end of this course, students will understand the nature and functions of hereditary material, with emphasis on the historical, experimental procedures and data that led to current concepts in genetics. Students will also learn about the professor's evolutionary genetics research program in Central Africa.

Course Activities/Assignments: Students are expected to read assigned chapters **before** class, and to practice with problems at the end of the chapters and Achieve on their own, or in study groups outside of class, to ensure adequate understanding of the material. The syllabus quiz and group problems (can be taken with a maximum of 4 students per group) will occur during classtime for about 15–30 minutes, depending on the complexity of the question(s). Work must be shown for full credit. These group problems will be based on the previous Powerpoint lecture, but specific topics will usually not be provided in advance. Exams will occur for the entire classtime, but students will not be permitted to begin an exam if they are >30 minutes late. Students are permitted to use a calculator for group problems and exams, but cell phones are not allowed. Some scheduled topics may not be covered at all. Powerpoints will not be posted in advance because they contain solutions to group problems. See Course Calendar for additional details and Achieve deadlines.

Assessment of Course Objectives: Students will be assessed on the course objectives from four exams, a syllabus quiz, 7 group problems during classtime, attendance, participation in Achieve surveys, and Achieve online reading quizzes and homework problems. Dates of exams, the syllabus quiz, and group problems are provided in advance (see course schedule below and separate Course Calendar document), but are subject to change because of canceled classes, etc.

Grading Policy: Each of the 4 exams will include 34 multiple-choice questions worth 3 points each. All four exams will: (1) include a maximum possible score of 102; (2) not be cumulative; and (3) not be curved. **The lowest of the first THREE exams will be dropped; note that the final cannot be dropped, and failure to take the final exam will result in a grade of F for the course.** Each of the three counted exams will be worth 25% of the final grade. Average of in-class syllabus quiz and group problems (usually 7 per semester- see schedule below) are worth 15% of the final grade. The remaining **ten percent** of the final grade will be assessed from Achieve reading quiz average (5%) and Achieve homework average (5%). Students will incur a 0.5 point penalty to their final grade for: (1) each missed in-class assessment (syllabus quiz, group problem or exam), (2) each missed Achieve survey (<90% complete); and (3) violations of the netiquette, civility or academic integrity statements below. To receive full credit for group problems, students must show all work. Final grades for the course will be as follows: 90–102: A; 80–89: B; 70–79: C; 60–69: D; < 60: F. **As per university policy, queries about grades via email must come from an official UTEP email on file for a student.** At the discretion of the professor, students who are within 0.5 point of the next-highest letter grade (e.g., 89.5) may be assigned a better grade, depending on their overall performance in the course, class attendance, homework, netiquette, and other considerations explained below. Failure to bring an undamaged, unfolded green SCANTRON to class on the day of exams or the syllabus quiz will result in a penalty of 5 points to the grade. Be sure to mark your SCANTRON after you have determined your final answer for a question—poorly erased bubbles in the SCANTRON will be marked wrong and no credit will be given. A 1 point penalty will be assessed to all quizzes, group problems, or exams that fail to include each student's name and UTEP 800 number on the hard copy and SCANTRON, if applicable.

Netiquette: It is the student's responsibility to check their email several times a week to ensure they do not miss important emails and announcements from the professor via Blackboard. Students are expected to communicate with the professor and each other in a professional and respectful manner at all times—failure to do so can result in penalties to the final grade, or in extreme cases, reporting to the UTEP Office of Student Conduct and Conflict Resolution. Please consult this website for more information:
<https://www.utep.edu/extendeduniversity/utepconnect/blog/october-2017/10-rules-of-netiquette-for-students.html> Mass emails to other students in the course via Blackboard or other platforms are not permitted, and can result in penalties to grades. Avoid sending messages via Blackboard, and instead email the professor directly.

- Achieve Online: **The online Achieve subscription is required** (students who do not register will automatically fail the course) and is meant to provide access to the extextbook, extra practice for genetics problems, reinforce concepts discussed in class, and provide additional enrichment and breadth of knowledge. Achieve reading quizzes and homework assignments are worth 10% of the final grade, four surveys are required (0.5 point penalty to final grade for each missed survey or <90% complete), but animations and tutorials are completely optional. Achieve access costs about \$100 (subject to change each semester), but includes an ebook version of the textbook—it is not possible to pay less if students do not wish to have access to the ebook (this is the policy of Achieve, not the professor!). Although Achieve grants a “grace period” for courses that are six weeks or longer, for ¼ of the course length, **students are required to pay for Achieve before the grace period ends.** Assignments that are not completed due to non-payment will receive a grade of zero. **It is the student’s responsibility to check deadlines for all assignments at the beginning of the semester and mark their calendars to ensure no deadlines are missed**—I highly recommend that you complete all assignments early. Check the Achieve website and Course Calendar for these deadlines. Extensions for Achieve assignments will be granted if written documentation is provided for medical illness, death in the family, university-sponsored activity, or technical problem with the website if it can be documented with an Achieve case number (professor will confirm with Achieve). Note that tutorials and animation activities on Achieve are provided at the discretion of the professor for additional enrichment, but they are optional and are not included in the course grade calculations. Students are allowed only one guess per question before a penalty to the grade for each assignment will occur. If you have a technical problem with Achieve, contact them with this chat function: <https://macmillan.force.com/macmillanlearning/s/chat-with-us>
- COVID-19 Policy: **Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms.** If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing. The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org
- Make-up Policy: Makeups for assessments (i.e., in-class syllabus quiz, group problems and exams) will be offered to students who miss a scheduled assessment because of illness, vehicle breakdown, death in the family, or university-sponsored activity, **but written documentation must be provided within 1 week of the missed assessment via email to the professor.** Makeups are not an option for poor grades on completed assessments. **Approved makeup assignments will consist of a 2-page research paper for the syllabus quiz or group problems, and 10-page research paper for exams.** General guidelines, a grading rubric, and an example of a model paper are provided on Blackboard in a dedicated folder entitled Makeup Papers; contact the professor for additional details. **NOTE: Final grades will be submitted within 48 hours after the final exam;** thus, final exam makeups must be completed within 48 hours of the scheduled final exam.
- Extra Credit: Students have the exceptional opportunity for extra credit by having a maximum of 102 points on each exam, along with the ability to drop the lowest non-final exam. No additional extra credit will be offered at any time during the entire duration of this course. Requests for extra credit assignments will be denied—no exceptions.
- Class Attendance: **Attendance via participation with in-class group problems, the syllabus quiz, and exams is a significant portion of your grade in this course.** Valid excuses for missing class include illness, vehicle breakdown, death in the family, or university-sponsored activity, but **all valid excuses must be accompanied by written documentation and submitted as soon as possible (up to 1 week) after a missed assessment** to be acceptable for makeup research papers. Students who miss group problems, the syllabus quiz, or exams without written documentation will receive a grade of zero.

- Review Sessions: UTEP now has an outstanding resource to help tutor students: the Miner Learning Center (MLC) is on the 2nd floor of the library www.utep.edu/mlc. This is a free tutoring program that consists of student-led review sessions for historically *difficult courses*. The review sessions (schedule announced on the first day of class) are led by a student who has previously taken the course and performed very well. Because the TA only assists with grading, it is not possible to hold additional review sessions for assessments (i.e., group problems and exams). However, the majority of the exams are based on the Powerpoints and group problems, and students should focus on them for the majority of their studying. A small portion of exam questions will be based on the Achieve material and etextbook (especially boldfaced terms). Any student who has questions about any material covered in the course should take advantage of office hours.
- Civility Statement: Students are expected to behave professionally and maintain respect at all times for the professor and classmates. Failure to follow this policy may result in penalties to the final grade, or reporting to the UTEP Office of Student Conduct and Conflict Resolution. See also the Netiquette section above.
- Disability Statement: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at <https://www.utep.edu/student-affairs/cass/>. Requested accommodations must be made 3 working days before an examination. **All students requesting disability accommodations must meet with the professor at office hours (or request an appointment via phone) to discuss the details before they will be implemented, preferably at the beginning of the semester.**
- Military Statement: If you are a military student with the potential of being called to military service and/or training during the course of the semester, please contact the professor within the first week of class to arrange in advance for makeup assignments, etc.
- Dropping the Course: Students are cautioned to consider dropping the course if they are performing poorly **BEFORE** the drop deadline (see below for date). You must drop this class yourself with assistance from your academic advisor – the professor will not automatically drop you if you never show up to class or just stop attending, and you will receive a final grade of F. Also remember that courses may only be repeated a total of 3 times, and a “W” counts as one. The College of Science will remain aligned with the University and not approve any drop requests after the drop date. Contrary to what the office of the Registrar might tell you, **professors in the Department of Biological Sciences are not authorized to drop students from their class after the drop deadline.**
- Incomplete Grades: All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to one month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.
- Academic Integrity: This course has a zero-tolerance policy for cheating. The UTEP policy on academic integrity and scholastic dishonesty can be found at: <https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html>.

Course Schedule:

Lecture Schedule		Topic/Exam	Relevant Reading
			P = Pierce, G = Greenbaum
M	Aug 23	Objectives & Introduction	P Chapter 1
W	Aug 25	DNA: basic genetic material	P Chapter 10
M	Aug 30	DNA Replication	P Chapter 12
Syllabus Quiz			
W	Sep 1	Transcription	P Chapter 13
M	Sep 6	*****LABOR DAY NO CLASS*****	
W	Sep 8	RNA Molecules/Processing	P Chapter 14
Group Problem 1			
M	Sep 13	Translation	P Chapter 15
Group Problem 2			
W	Sep 15	EXAM 1 at 3 PM	
M	Sep 20	Mutation & Repair	P Chapter 18
W	Sep 22	PCR & DNA Technology	P Chapter 19
Group Problem 3			
M	Sep 27	Pedigree & Genetic Testing	P Chapter 6
W	Sep 29	Mendel and Genetics	P Chapter 3
M	Oct 4	Chromosome/Sex-Linked Genetics	P Chapters 2 & 4
W	Oct 6	Allelism, gene expression, etc.	P Chapter 5
Group Problem 4			
M	Oct 11	EXAM 2 at 3 PM	
W	Oct 13	Population Genetics I	P Chapter 25
M	Oct 18	Population Genetics II	P Chapter 25
Group Problem 5			
W	Oct 20	Non-Mendelian Inheritance	P Chapter 11
M	Oct 25	Evolutionary Genetics	P Chapter 26
W	Oct 27	Congo Intro	G pp. 73–74, 77–83, 88–90, 177–180
F	Oct 29	***** DROP DEADLINE *****	
M	Nov 1	Congo Research	G Chapters 1 & 11 G pp. 105–113, 221–224
W	Nov 3	EXAM 3 at 3 PM	
M	Nov 8	Genomics/Proteomics	P Chapter 20
W	Nov 10	Quantitative Genetics	P Chapter 24
M	Nov 15	Genetics of Development	P Chapter 22
W	Nov 17	Cancer Genetics	P Chapter 23
Group Problem 6			
M	Nov 22	Eukaryote Gene Mapping	P Chapter 7
W	Nov 24	***** NO CLASS EARLY RECESS FOR THANKSGIVING ***	
M	Nov 29	Chromosome Variation	P Chapter 8
Group Problem 7			
W	Dec 1	Epigenetics	P Chapter 21
M	Dec 6	FINAL EXAM, Earlier Time! 1 PM	