

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

Course #: BIOL 3320 CRN# 13034
Course Title: Genetics
Credit Hrs: 3
Term: Fall 2022
Course Meetings & Location: Mondays & Wednesdays 1:30–2:50 PM, UNION #109
Prerequisite Courses: BIOL 1305-1107; BIOL 1306-1108
Instructor: Professor Eli Greenbaum
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
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. On reserve and 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 problem quizzes (can be taken with a maximum of 4 students per group) will occur during classtime, usually via i-Clicker, for about 15–30 minutes, depending on the complexity of the question(s). When group problems are done with paper, work must be shown for full credit. These group problems will be based on previous Powerpoint lectures. 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 might 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 problem quizzes during classtime, attendance and participation in polls with i-Clicker, 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 problem quizzes (7 per semester- see schedule below) are worth 15% of the final grade. Polls from i-Clicker are not graded but participation is required. 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); (3) each missed class (or leaving class early); (4) each missed i-Clicker poll; and (5) violations of the netiquette, civility or academic integrity statements below. 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 and participation, 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 syllabus quizzes, written group problems (if any), or exams that fail to include each student’s name and UTEP 800 number on the hard copy and SCANTRON, if applicable. **Note that most grades will NOT be entered into Blackboard’s gradebook function; the only exceptions are the final exam grade and final grade in the course.**

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.

i-Clicker: **A working i-Clicker app on a mobile device will be required for most group problem quizzes and all polls.** We will not use i-Clicker remote devices in this class—you should download the app on your mobile device and ensure it is charged before coming to class. An uncharged mobile device will not be accepted as an excuse for missing polls or other assessments. You must be present in the classroom to participate. Do not answer the quizzes with someone else’s i-Clicker app, or you will be reported for Academic Misconduct. Participation in 1-minute polls will ensure you get credit for attendance and class participation, and answers will not be graded. Quizzes will be timed (usually about 15 minutes or so) and graded. You can get started with this website: <https://macmillan.force.com/iclicker/s/article/Checklist-Getting-Started-with-the-iClicker-Student-App> The join code for our course is: <https://join.iclicker.com/2GJN5>

- 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 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. 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, but not polls) 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 of ALL classes 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. Students who are late, miss class entirely, or leave class early, will be penalized 0.5 points (for each instance) from the final grade in the course.

- 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*. Availability can vary each semester. 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 textbook (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:

<u>Lecture Schedule</u>		<u>Topic/Exam</u>	<u>Relevant Reading</u>
P = Pierce, G = Greenbaum			
M	Aug 22	Objectives & Introduction	P Chapter 1
W	Aug 24	DNA: basic genetic material	P Chapter 10
M	Aug 29	DNA Replication	P Chapter 12
Syllabus Quiz			
W	Aug 31	Transcription	P Chapter 13
M	Sep 5	***** LABOR DAY NO CLASS *****	
W	Sep 7	RNA Molecules/Processing	P Chapter 14
Group Problem Quiz 1			
M	Sep 12	Translation	P Chapter 15
Group Problem Quiz 2			
W	Sep 14	EXAM 1 at 3 PM	
M	Sep 19	Mutation & Repair	P Chapter 18
W	Sep 21	PCR & DNA Technology	P Chapter 19
Group Problem Quiz 3			
M	Sep 26	Pedigree & Genetic Testing	P Chapter 6
W	Sep 28	Mendel and Genetics	P Chapter 3
M	Oct 3	Chromosome/Sex-Linked Genetics	P Chapters 2 & 4
W	Oct 5	Allelism, gene expression, etc.	P Chapter 5
Group Problem Quiz 4			
M	Oct 10	EXAM 2 at 3 PM	
W	Oct 12	Population Genetics I	P Chapter 25
M	Oct 17	Population Genetics II	P Chapter 25
Group Problem Quiz 5			
W	Oct 19	Non-Mendelian Inheritance	P Chapter 11
M	Oct 24	Evolutionary Genetics	P Chapter 26
W	Oct 26	Congo Intro	G pp. 73–74, 77–83, 88–90, 177–180
F	Oct 28	***** DROP DEADLINE *****	
M	Oct 31	Congo Research	G Chapters 1 & 11 G pp. 105–113, 221–224
W	Nov 2	EXAM 3 at 3 PM	
M	Nov 7	Genomics/Proteomics	P Chapter 20
W	Nov 9	Quantitative Genetics	P Chapter 24
M	Nov 14	Genetics of Development	P Chapter 22
W	Nov 16	Cancer Genetics	P Chapter 23
Group Problem Quiz 6			
M	Nov 21	Eukaryote Gene Mapping	P Chapter 7
W	Nov 23	***** NO CLASS EARLY RECESS FOR THANKSGIVING ***	
M	Nov 28	Chromosome Variation	P Chapter 8
Group Problem Quiz 7			
W	Nov 30	Epigenetics	P Chapter 21
W	Dec 7	FINAL EXAM, 4–5:20 PM	