This course is in a distance based, fully online, asynchronous format. All lecture chapters are video recordings, and can be found on Canvas. All online assignments (tutorials and exercises) and exams are assigned through Canvas. Asynchronous means that you will work at your pace without designated class meeting times. Exams will be held online during a designated 24 hour window. All deadlines are listed as Central Time.

COURSE DESCRIPTION: This course provides an overview of the principles and concepts of heredity and molecular genetics. Three areas of genetics will be covered: Mendelian (or transmission) genetics, molecular genetics, and population/evolutionary genetics. While easily divided into these units, they are by no means independent, each being tied to the others. Major concepts to be covered will include how the genetic material: 1) replicates and is passed on, 2) contains information that results in a phenotype, and 3) can change. Recent discoveries, historical concepts and some applications will be discussed.

COURSE GOALS: 1) Students will understand the concepts of classical, molecular, and population genetics. 2) Students will solve genetics problems. 3) Students will make connections between genetics, their lives and other disciplines.

LEARNING OUTCOMES: Upon completion of BIOL 3332, the student should be able to

1. list, state, and define the terms of genetic transmission, expression, and change
2. summarize, describe, analyze, categorize, synthesize, and evaluate the principles and processes of genetic transmission, expression, and change
3. assess the merits of genetic hypotheses
4. recall, draw, diagram, interpret, the processes of genetic transmission, expression, and change
5. read and summarize primary literature from the field of genetics
6. solve problems, formulate hypotheses, calculate results, based on data generated from genetics

REQUIRED MATERIALS:

Since this course is held in an online format, you need access to high speed internet, a laptop or desktop computer with integrated or external webcam, and a calculator which is not a phone. You will need a ProctorU account (more specifics below) and access to Canvas.

RECOMMENDED BOOKS/Materials:

There are many good genetics text books out there, and it will pay off if you have access to a book for in depth readings. For this course, it is not required that you buy a specific book.

Lecture slides are based on these two books:

- Concepts of Genetics 12e by Klug, Cummings, Spencer, Palladino, Killian, Pearson, 2018
- Principles of Genetics by D. P. Snustad and M. J. Simmons, 6th, John Wiley & Sons, Inc, 2011

Other materials (lecture recordings, lecture slides, videos, animations, online tutorials) can be found through Canvas.

COMMUNICATION

Announcements: Announcements are found on Canvas, and depending on your Canvas settings for this class, you will get notified if there is a new one. Please make a point of reading the announcements. This is how I will communicate with the class as a whole when there is important information you need. One way in which I use announcements is if I get the same question from several students, then I may use an announcement to clarify the point in question for everyone.

Zoom Office hours: I am available for virtual office hours via Zoom MWF, 9 am – 10 am. If you would like to meet with me, please send me an email, and I will set up a Zoom meeting. If the above hours do not work for you, please contact me anyways and we will set up a time that works for both of us.
**Important Note:** This syllabus, along with course assignments and due dates, are subject to change. It is your responsibility to check Canvas for corrections or updates to the syllabus. Any changes will be clearly noted in a course announcement or through email.

**GRADING POLICY:** The final grade will be determined as follows:

**Attendance & Participation**

Attendance and participation is essential to success in this course. “Participation” in an asynchronous learning environment involves the viewing of lecture recordings and materials as necessary. In this course, there will be a participation grade through answering check point questions. These questions are embedded in the lecture video recordings. While you watch the lecture video recording, it will stop at some points, and you are prompted to answer a question. There are no deadlines to watch the video recordings, but of course it will make sense to watch them before the exams (see below).

**Homework and Practice Quizzes**

For each chapter, there will be additional reading, video or tutorial assigned through Canvas, and you are strongly encouraged to work through these exercises. For each chapter, there will be a Quiz (each Quiz is 10 pts). Quiz questions will cover material from this chapter’s lecture recording and online assignment. Quizzes can be found online on Canvas. There are no deadlines to take the quizzes, but of course it will make sense to take them before the exams (see below).

**Exams**

Three exams (each 100 pts) and one cumulative final exam (150 pts). Exam questions will be multiple choice, true and false. All exams are available online, and need to be taken through ProctorU (Details see below). Exams cover material from the previous chapters (final exam covers all chapters). Exams are spaced throughout the semester. Exams become available on ‘Exam day’ and you can take each exam within a 24 hour window. If you are unable to take an exam on set day, for whatever reason, please contact me.

**All course grades will be in Canvas.**
<table>
<thead>
<tr>
<th>Points Possible</th>
<th>%</th>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>100</td>
<td>13</td>
<td>90-100%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>100</td>
<td>13</td>
<td>80-89%</td>
</tr>
<tr>
<td>Exam 3</td>
<td>100</td>
<td>13</td>
<td>70-79%</td>
</tr>
<tr>
<td>Final</td>
<td>150</td>
<td>21</td>
<td>60-69%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>130</td>
<td>20</td>
<td>50-59%</td>
</tr>
<tr>
<td>Attendance</td>
<td>130</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>710</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Make-up exam Policy**

If you are unable to take an exam as scheduled, a make-up will be arranged **ONLY** if the reason is legitimate, and the instructor is notified **IN ADVANCE** of the time the exam is scheduled. Students who fail to make appropriate arrangements will receive a grade of “0” for the exam missed.

**ProctorU**

The assessments in this online course will be proctored using ProctorU. Beyond the cost of initial equipment needed (e.g. a camera for your computer), there will not be any additional cost for proctoring. You will need to create a ProctorU account and install the ProctorU extension before attempting any assessment.

To create a ProctorU account, follow the ProctorU tool within Canvas. Please make sure you are using the current version of Chrome or Firefox and download the ProctorU extension available at [http://bit.ly/proctoruchrome](http://bit.ly/proctoruchrome) (Links to an external site.) or [https://www.proctoru.com/firefox](https://www.proctoru.com/firefox) (Links to an external site.).
In order to use ProctorU, you will need the following:

- High-speed Internet connection
- Webcam (internal or external)
- Windows, Mac, or Chrome Operating System
- Up-to-date Chrome or Firefox browser and ProctorU extension installed
- Valid photo ID
- Quiet environment to take your assessment

You can visit the Test Taker Resource Page for additional information at https://bit.ly/ProctorMe (Links to an external site.)

LECTURE SCHEDULE: Course Content Overview

Welcome! Class Orientation-Syllabus and Canvas

Introduction: The Science and History of Genetics

Chapter 1: Cellular Reproduction: Mitosis & Meiosis

Chapter 2: Mendelian Genetics: The Basic Principles of Inheritance

Chapter 3: Extensions of Mendelian Genetics

02/05/21 Exam I Covers Chapters 1-3

Chapter 4: Sex determination and sex chromosomes

Chapter 5: Chromosome Mapping, Linkage, Crossing Over: The Chromosomal Basis of Mendelism

Chapter 6: Chromosomal Mutations: Variation in Number & Arrangement

03/05/21 Exam II Covers Chapters 4-6

Chapter 7: The Genetics of Bacteria and their Viruses
Chapter 8: DNA Structure and Analysis, chromosomes
Chapter 9: DNA Replication and recombination
Chapter 10: The Genetic Code and Transcription
Chapter 11: Translation and Proteins

04/16/21 Exam III Covers Chapters 7-11

Chapter 12: Gene Mutation and DNA repair
Chapter 13: Population & Evolutionary Genetics

TBD Final Exam

ProctorU

Summary: ProctorU Auto is an online proctoring service that allows you to take your exams online. ProctorU’s Automated service is available 24/7 and does not require scheduling! Beyond the cost of initial equipment needed (e.g. a camera for your computer), there will not be any additional cost for proctoring. You will need access to a laptop or Desktop computer with an integrated or external webcam! You will need to create a ProctorU account and install the ProctorU extension before attempting any assessment. To create a ProctorU account, follow the ProctorU tool within Canvas.

Please make sure you are using the current version of Chrome or Firefox and download the ProctorU extension available at http://bit.ly/proctoruchrome or https://www.proctoru.com/firefox.

Your enrollment in this course requires the use of ProctorU for online assessment proctoring. YOUR ACTIVITIES ARE RECORDED WHILE YOU ARE LOGGED INTO OR TAKING YOUR ASSESSMENT(S). THE RECORDINGS SERVE AS A PROCTOR AND WILL BE REVIEWED AND USED IN AN EFFORT TO MAINTAIN ACADEMIC INTEGRITY. You can find more detailed information on ProctorU at https://www.utttyler.edu/digital-learning/proctoru-resources/ (Links to an external site.).

If you have religious or other concerns about this methodology please contact the SAR office.

In order to use ProctorU, you will need the following:
High-speed Internet connection, Webcam (internal or external),

Windows, Mac, or Chrome Operating System, Up-to-date Chrome or Firefox browser and ProctorU extension installed, Valid photo ID, Quiet environment to take your assessment.

You can visit the Test Taker Resource Page for additional information at https://bit.ly/ProctorMe (Links to an external site.).

Please familiarize yourself with the tool before the first exam!

Academic Integrity

The University of Texas at Tyler's honor code compels us to: "Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Possible penalties of violating academic integrity may include failure of this course and University disciplinary action as described by the Manual of Policies and Procedures for Student Affairs, Chapter 8: Student Conduct and Discipline (http://www.uttymem.edu/mopp/). If you are unclear on what “cheating” includes, please consult the document at (https://www.uttymem.edu/academicaffairs/files/syllabuspolicy.pdf (Links to an external site.)) under University Mandated Policies (See Below).

Attendance

“Attendance” in an asynchronous learning environment involves the viewing of course recordings and materials as necessary. Answering quizzes and completing assignments is required so that I can note attendance in the course. I am required to provide attendance data for Financial Aid, midterm, and final grades submissions; therefore, it is critical that you maintain activity in this course. If you cannot for reasons of Illness or other acceptable situations please contact Dr. Kellner to determine the best course of action.

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttymem.edu
- UT Tyler PASS Tutoring Center (903.565.5964), tutoring@uttymem.edu
- UT Tyler Upswing Online Tutoring https://www.uttymem.edu/tutoring/online.php
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254)
**Disability/Accessibility Services**

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit

https://hood.accessiblelearning.com/UTTyler and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at http://www.utttyler.edu/disabilityservices, the SAR office located in the University Center, # 3150 or call 903.566.7079.

**University Policies**

**Students Rights and Responsibilities**

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:

http://www.utttyler.edu/wellness/ rightsresponsibilities.php

**Campus Carry**

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at http://www.utttyler.edu/about/campus-carry/index.php (Links to an external site.)

**Tobacco-Free University**

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless
tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit [www.uttyler.edu/tobacco-free](http://www.uttyler.edu/tobacco-free) (Links to an external site.).

**Student Absence due to Religious Observance**

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

**Student Absence for University-Sponsored Events and Activities Revised 05/19**

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

**Grade Replacement/Forgiveness and Census Date Policies**

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at [http://www.uttyler.edu/registrar](http://www.uttyler.edu/registrar). Each semester’s Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar. Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract. The Census Date is the deadline for many forms and enrollment actions of which students need to be aware. These include: 1) Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit. 2) Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date) 3) Schedule adjustments (section changes, adding a new class, dropping without a “W” grade) 4) Being reinstated or re-enrolled in classes after being dropped for non-payment 5) Completing the process for tuition exemptions or waivers through Financial Aid State-Mandated Course Drop Policy

**Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted**
to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Privacy

Students do not have the right to be “anonymous” whether classes are in person or online, or for online courses. All discussion pages will take place within Canvas, and your names will be displayed.

Recording of Class Sessions

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

Official Covid 19 Policy

Students are required to wear face masks covering their nose and mouth, and follow social distancing guidelines, at all times in public settings (including classrooms and laboratories), as specified by Procedures for Fall 2020 Return to Normal Operations. The UT Tyler community of Patriots views adoption of these practices consistent with its Honor Code and a sign of good citizenship and respectful
care of fellow classmates, faculty, and staff. Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher than normal temperature will be excused from class and should stay at home and may join the class remotely. Students who have difficulty adhering to the Covid-19 safety policies for health reasons are also encouraged to join the class remotely. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

**Student Standards of Academic Conduct**

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. i. “Cheating” includes, but is not limited to: 1) copying from another student’s test paper; 2) using, during a test, materials not authorized by the person giving the test; 3) failure to comply with instructions given by the person administering the test; 4) possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test; 5) using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program; 6) collaborating with or seeking aid from another student during a test or other assignment without authority; 7) discussing the contents of an examination with another student who will take the examination; 8) divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student; 9) substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment; 10) paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program; 11) falsifying research data, laboratory reports, and/or other academic work offered for credit; 12) taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and 13) misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially. ii. “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit. iii. “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty. iv. All written work that is submitted will be subject to review by plagiarism software.