BIOL3315: Genetics
Spring 2018

Instructor: Dr. Sen Xu

Office Number: Office Hours will be held in Life Science (LS) B08 (basement).

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Office Hours: Mondays 1:30 pm – 2:50 in LSB08.

Section Information: BIOL 3315-002

Time and Place of Class Meetings:
BIOL 3315-002 will meet on Mondays and Wednesdays from 3:00 pm - 4:20 pm in LS100.

Description of Course Content: In this course, we will focus on understanding how biological information is store, expressed, changed, and transmitted covering the fundamentals of the structure and function of DNA, RNA, and the genome.

Student Learning Outcomes: I hope to cover Chapter 1 to 9, Chapter 12 to 19, and Chapter 21 to 22 in the textbook. I will go over some aspects of Chapter 10 as well. I will cover approximately a chapter a week (see schedule below) and have some time for discussions and problem solving as needed through the course. The student will learn this material and how to solve problems.

Required Textbooks and Other Course Materials:

The required textbook is Genetic Analysis: An Integrated Approach by Mark F. Sanders and John L. Bowman. Pearson. 2nd edition. (2015). ISBN: 9780321948908. There is an eBook version of this book and options for rental or purchase.

Class Notes:
I will be using Blackboard to post the class notes (https://elearn.uta.edu). You should be able to log in with your UTA ID and password after I grant access.

Descriptions of major assignments and examinations: This course will consist of **three** exams (two midterms and a comprehensive final) and 5 online quizzes, all of which will be multiple choice.

Attendance: At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I strongly recommend attendance. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Prerequisites: BIOL 1441.

Grading: You will be graded based on four components of the course, each of which has equal weight

(i.e., 25%). Three components are your 2 midterm and 1 final exams, and the fourth component is your overall quiz score. So, you need to do well in all aspects of the course but there is some flexibility as your final will replace the grade of one of the midterms, if you perform better in the final (See more details in the **Make-up Exams** section).

Grading scale
A = 90-100
B = 80-89
C = 70-79
D = 60-69
F < 60

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels; see "Student Support Services," below.

Exams: For all exams, you will need Scantron Form 4521 (blue form that provides five possible responses). In order for your exam to be graded, you need to include your name (first and last) and your Student ID number in the sections provided. You must fill in your answers with a pencil or your exam will not be graded. If you fail to follow these instructions, you will receive a 0 on the exam with no possibility to re-take it.

Quizzes: Each quiz will be 10 multiple-choice questions and will be available for a few days on Blackboard; you have until the due date to complete the quiz. While you are free to use your notes and work together, every person must submit a quiz in order to get credit but you will have multiple attempts and only the last one will be scored. Altogether the five quizzes will be worth 25% of your grade as mentioned above. While this should be an easy 25% to score, you need to be on top of this from day one. The multiple-choice questions will resemble the type and difficulty of questions on the midterms.

Make-up Exams: There will be **no make-up exams**. Instead, what I will do is allow everyone to replace their lowest midterm exam score with the final score, including any missed exams. **Only one exam will be replaced**. If you anticipate missing more than one exam, or if you miss more than one exam, you should consider dropping the course. **Note that only under extraordinary circumstances do we give Incompletes**.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Grade Grievances: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao//fao).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with

disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of **a letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:
The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.*

Title IX Policy: The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*
>
> *I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University. Additional information is available at https://www.uta.edu/conduct/.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit http://www.uta.edu/news/info/campus-carry/.

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as "lecture," "seminar," or "laboratory" are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback via the SFS database is aggregated with that of other students enrolled in the course. Students' anonymity will be protected to the extent that the law allows. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit http://www.uta.edu/sfs.

Final Review Week: for semester-long courses**,** a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest of 2 exits, which are located south of LS119. These are the main entrances to the lecture hall and take you to the main hall where you can exit from either side of the building. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Students are encouraged to subscribe to the MavAlert system that will send information in case of an emergency to their cell phones or email accounts. Anyone can subscribe at https://mavalert.uta.edu/ or https://mavalert.uta.edu/register.php.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/universitycollege/resources/index.php.

The IDEAS Center (2nd Floor of Central Library) offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

Course Schedule

Date	Day	Topic	Reading	Quizzes
1/17/2017	Wednesday	Introduction	Ch. 1/10	
1/22/2017	Monday	Transmission Genetics	Ch. 2	
1/24/2017	Wednesday	Transmission Genetics	Ch. 2	
1/29/2017	Monday	Cell Division and Chromosomal Heredity	Ch. 3	
1/31/2017	Wednesday	Cell Division and Chromosomal Heredity	Ch. 3	Quiz 1
2/5/2017	Monday	Gene Interactions	Ch. 4	
2/7/2017	Wednesday	Gene Interactions	Ch. 4	
2/12/2017	Monday	Genetic Linkage and Mapping in Eukaryotes	Ch. 5	
2/14/2017	**Wednesday**	**Midterm 1 (Chapters 1-4)**		
2/19/2017	Monday	Genetic Linkage and Mapping in Eukaryotes	Ch. 5	
2/21/2017	Wednesday	Population genetics/Quantitative traits	Ch. 22/21	
2/26/2017	Monday	Population genetics/Quantitative traits	Ch. 22/21	
2/28/2017	Wednesday	Genetic Linkage and Mapping in Prokaryotes	Ch. 6	Quiz 2
3/5/2017	Monday	DNA Structure and Replication	Ch. 7	
3/7/2017	Wednesday	DNA Structure and Replication	Ch. 7	
3/12/2017	**Spring break**			
3/19/2017	Monday	Transcription and RNA processing	Ch. 8	
3/21/2017	Wednesday	Transcription and RNA processing/Translation	Ch. 8/9	
3/26/2017	**Monday**	**Midterm 2 (Chapters 5-8,21-22)**		
3/28/2017	Wednesday	Translation	Ch. 9	Quiz 3
4/2/2017	Monday	Mutation	Ch. 12	
4/4/2017	Wednesday	Mutation	Ch. 12	
4/9/2017	Monday	Chromosomal Aberrations and Transposition	Ch. 13	
4/11/2017	Wednesday	Chrom. Aberra. and Transp	Ch. 13	
4/16/2017	Monday	Gene regulation in prokaryotes	Ch. 14	
4/18/2017	Wednesday	Gene regulation in eukaryotes	Ch. 15	Quiz 4
4/23/2017	Monday	Recombinant DNA Tech.: For/Rev Gen/Application	Ch. 16/17	
4/25/2017	Wednesday	Recombinant DNA Tech.: For/Rev Gen/Application	Ch. 16/17	
4/30/2017	Monday	Genomics and organelle inheritance	Ch. 18/19	Quiz 5
5/2/2017	Wednesday	Review		
5/7/2017	**Monday**	**Comprehensive Final (TBA)**	2-4:20pm	

"*As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Sen Xu"*

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381