BIOL3315-001 Genetics
Fall 2020

Instructor Information

Instructor(s)
Dr. Matthew Fujita and Dr. Todd Castoe

Office Number
ERB 429

Office Telephone Number
(817) 272-3419 (this is the number to the Biology Department and not a direct line to the instructors)

Email Address
Dr. Fujita: mkfujita@uta.edu
Dr. Castoe: todd.castoe@uta.edu

Please allow 48 hours for us to get back to you via e-mail, though we will strive to do as fast as we can.

Faculty Profile
Dr. Fujita: https://mentis.uta.edu/explore/profile/matthew-fujita
Dr. Castoe: https://mentis.uta.edu/explore/profile/todd-castoe

Office Hours
Monday, Thursday 4-5 PM. Office hours will be held on Teams/Canvas.

Communication
The best way to contact us is by email and/or via the Canvas Inbox. Please add the course number in the subject of your email to make it easier for us to recognize course related messages. Be sure to address your messages to either Dr. Fujita or Dr. Castoe, and to sign your messages with your full name. We expect you to communicate professionally with us and with your classmates. **Have Canvas notifications turned on** as we will be posting notifications via Canvas.

Course Information

Section Information
BIOL 3315-001

Time and Place of Class Meetings
The course will be taught entirely online as per UTA’s Fully Online Option 1: All instruction and testing is online. All classes are asynchronous (recorded) with requires no synchronous component except for exams and office hours. However, we will stick with a schedule and lectures will be posted by Tuesday and Thursday mornings. All testing will be given at specified times. Office hours will be live, during the times specified above.

Description of Course Content
This course will cover the fundamentals of the structure and function of DNA, RNA, and the genome. Topics include DNA and RNA structure, gene structure and regulation, transcription, translation, recombination, genomics, mutation, and genotype-to-phenotype processes. Prerequisite: BIOL 1441.
Student Learning Outcomes
At the end of the course, students should have a solid understanding of the foundations of genetics, including the topics mentioned above.

Required Textbooks and Other Course Materials
Genetic Analysis: An Integrated Approach by Mark F. Sanders and John L. Bowman. Pearson; 2nd edition (2015; ISBN-13 978-0321948908). The book is available for rent at several locations (including an ebook subscription from the Pearson website) or purchase. We will also allow you to use the 1st edition, though page numbers and problems discussed on class will refer to the 2nd edition. Lectures and other materials will be distributed through Canvas.

Descriptions of major assignments and examinations
This course will consist of four exams (three midterms and a cumulative final) and 5 online quizzes. Grades should be available within a few days of the exam or quiz date in Canvas.

Technology Requirements
You will need access to a computer and stable Internet connection/browser are necessary to access course materials, including lectures, exams, quizzes, office hours, and grades. These materials will be available in Canvas. You will need speakers and/or headphones to listen to lectures. A webcam will be required for Respondus Lockdown for the exams. Laptops can be checked out from the library; please visit https://libraries.uta.edu/services/technology for more information. Computer labs may be available for use as well but please check hours and availability (https://www.uta.edu/oit/cs/its/labs/).

Grading Information

Grading
You will be graded based on EIGHT components: your three best exams (25% each) and five online quizzes (5% each for a total of 25%).

<table>
<thead>
<tr>
<th>Grading Scale</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = 90-100</td>
<td></td>
</tr>
<tr>
<td>B = 80-89</td>
<td></td>
</tr>
<tr>
<td>C = 70-79</td>
<td></td>
</tr>
<tr>
<td>D = 60-69</td>
<td></td>
</tr>
<tr>
<td>F &lt; 60</td>
<td></td>
</tr>
</tbody>
</table>

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. Note that only under extraordinary circumstances and with the approval of the Biology Department leadership do we give Incompletes.

Make-up Exams
There will be no make-up exams. Instead, your lowest exam grade will be dropped, including a missed exam. Only one exam will be dropped. If you anticipate missing more than one exam you should consider dropping the course and enrolling in a different section.

Expectations for Out-of-Class Study
Beyond the time required to attend each lecture, 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 and preparing for exams.

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.
Conflict Resolution
If you are experiencing an issue in class, you should first arrange a meeting with your instructor to discuss the issue. If you feel the issue requires further attention, you may then consult the Associate Chair of the Department of Biology, Dr. Melissa Walsh. To do this you should first file a grievance at https://www.uta.edu/php-lib/machform/view.php?id=3403. You must file the online form and have all supporting documentation in order to have your issue heard. Please note, none of the listed personnel will discuss the issue with you until you have first consulted all of those preceding them.

Course Schedule

Please see the course schedule at the end of the syllabus.

Institution Information

UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the Institutional Information page (https://resources.uta.edu/provost/course-related-info/institutional-policies.php) which includes the following policies among others:

- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule

Additional Information

Mandatory Face Covering Policy
All students and instructional staff are required to wear facial coverings while they are on campus, inside buildings and classrooms. Students that fail to comply with the facial covering requirement will be asked to leave the class session. If students need masks, they may obtain them at the Central Library, the E.H. Hereford University Center’s front desk or in their department. Students who refuse to wear a facial covering in class will be asked to leave the session by the instructor, and, if the student refuses to leave, they may be reported to UTA’s Office of Student Conduct.

Attendance
At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator of 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 this is a fully online course, attendance will not be taken. 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 must the last date a student, and in this course that date will be the date of their last exam and/or quiz. If a student has not participated in any of the activities, they will be considered as never attending the course. This date is reported to the Department of Education for federal financial aid recipients.

Student Success Programs
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 by appointment, drop-in tutoring, etutoring, supplemental instruction, mentoring (time management, study skills, etc.), success coaching, TRIO Student Support Services, and
student success workshops. For additional information, please email resources@uta.edu, or view the Maverick Resources website.

The IDEAS Center (https://www.uta.edu/ideas/) (2nd Floor of Central Library) offers FREE tutoring and mentoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

The Library’s 2nd floor Academic Plaza (http://library.uta.edu/academic-plaza) offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation.

Emergency Phone Numbers

Enter the UTA Police Department’s emergency phone number into your own mobile phone. 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.
# BIOL 3315-001 Genetics
Dr. Matthew Fujita and Dr. Todd Castoe

## Course Outline

<table>
<thead>
<tr>
<th>Module #</th>
<th>Topic/Activity</th>
<th>Dates (Tue – Thu)</th>
<th>Reading</th>
<th>Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>08/27/20 (Thu)</td>
<td>Ch. 1</td>
<td>Fujita</td>
</tr>
<tr>
<td>2</td>
<td>Transmission Genetics</td>
<td>09/01/20 – 09/03/20</td>
<td>Ch. 2</td>
<td>Fujita</td>
</tr>
<tr>
<td>3</td>
<td>Cell Division and Chromosome Heredity, Quiz 1 due 9/10/20</td>
<td>09/08/20 – 09/10/20</td>
<td>Ch. 3</td>
<td>Fujita</td>
</tr>
<tr>
<td>4</td>
<td>Gene Interaction</td>
<td>09/15/20 – 09/17/20</td>
<td>Ch. 4</td>
<td>Fujita</td>
</tr>
<tr>
<td>5</td>
<td>MIDTERM 1 – 40 multiple-choice questions</td>
<td>09/22/20 (Tue, 11 AM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Genetic Linkage and Mapping in Eukaryotes</td>
<td>09/22/20 – 09/24/20</td>
<td>Ch. 5</td>
<td>Fujita</td>
</tr>
<tr>
<td>7</td>
<td>Genetic Linkage and Mapping in Prokaryotes, Quiz 2 due 10/01/20</td>
<td>09/29/20 – 10/01/20</td>
<td>Ch. 6</td>
<td>Fujita</td>
</tr>
<tr>
<td>8</td>
<td>DNA and Chromosomes</td>
<td>10/06/20 – 10/08/20</td>
<td>Ch. 7</td>
<td>Fujita</td>
</tr>
<tr>
<td>9</td>
<td>Transcription and RNA Processing</td>
<td>10/13/20 – 10/15/20</td>
<td>Ch. 8</td>
<td>Fujita</td>
</tr>
<tr>
<td>10</td>
<td>MIDTERM 2 – 40 multiple-choice questions</td>
<td>10/20/20 (Tue, 11 AM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Translation, Quiz 3 due 10/22/20</td>
<td>10/20/20 – 10/22/20</td>
<td>Ch. 9</td>
<td>Castoe</td>
</tr>
<tr>
<td>12</td>
<td>Chromosome Structure</td>
<td>10/27/20</td>
<td>Ch. 11</td>
<td>Castoe</td>
</tr>
<tr>
<td>13</td>
<td>Mutation</td>
<td>10/29/20 – 11/03/20</td>
<td>Ch. 12</td>
<td>Castoe</td>
</tr>
<tr>
<td>14</td>
<td>Chromosomal Aberrations, Quiz 4 due 11/05/20</td>
<td>11/05/20</td>
<td>Ch. 13</td>
<td>Castoe</td>
</tr>
<tr>
<td>15</td>
<td>Regulation of Gene Expression in Prokaryotes</td>
<td>11/10/20 – 11/12/20</td>
<td>Ch. 14</td>
<td>Castoe</td>
</tr>
<tr>
<td>16</td>
<td>Regulation of Gene Expression in Eukaryotes</td>
<td>11/17/20 – 11/19/20</td>
<td>Ch. 15</td>
<td>Castoe</td>
</tr>
<tr>
<td>17</td>
<td>MIDTERM 3 – 40 multiple-choice questions</td>
<td>12/01/20 (Tue, 11 AM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Recombinant DNA: Forward/Reverse Genetics, Quiz 5 due 12/03/20</td>
<td>12/01/20 – 12/03/20</td>
<td>Ch. 16/17</td>
<td>Castoe</td>
</tr>
<tr>
<td>19</td>
<td>Genomics</td>
<td>12/08/20</td>
<td>Ch. 18</td>
<td>Castoe</td>
</tr>
<tr>
<td>20</td>
<td>FINAL EXAM (Comprehensive) – 60 multiple choice questions</td>
<td>12/10/20 (Thu, 11 AM)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“As the instructors for this course, we reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.
–Dr. Matthew Fujita and Dr. Todd Castoe.”