



**BIO 325**

**Genetics**

**Fall 2021**

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**Unique Numbers:** 49655, 49660, 49665, 49670, 49675, 49680

**Meeting Time:** MWF 10 am – 10:50 am, BUR 112 & Zoom

**Instruction Modality:** Hybrid

**Instructor:** Dr. E. Jane Bradbury, Ph.D.

**E-mail:** e.jane.bradbury@utexas.edu

**Office Hours:** MWF 11 am – 12 pm, BUR 112 & Zoom

**TA information:** Please see the Course Resources section of Canvas

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### **Course Description:**

Genetics remains the frontier of discovery in biology today! This semester, you are going to gain fluency in the foundational knowledge of the field of Genetics, starting with the basics of what genes are and expanding to explore prominent subdisciplines of the field, such as population genetics and phylogenetics (evolutionary genetics). This is an intermediate-level biology course, which means that in addition to content knowledge, we will be investigating exciting applications of content, including genome mapping, transgenic organisms, forensic science, and cancer as a genetic disease. Beyond mastering concepts, this course will require you to understand concepts in a way that you can analyze and apply them to real-life scenarios.

In addition to content, this course will also require and refine critical professional and life **skills:** critical thinking, quantitative analysis, accessing and evaluating information, oral and written communication, self-directed learning, and effective teamwork.

This course is worth three credit hours in Biology. Following the Carnegie model of earned credit, you should expect to work an additional 2-3 hours *per week per credit* outside of class. If you discover that you cannot come up with 6 – 9 hours of self-directed study, or if your study habits are ineffective, please consult with the teaching team. We are happy to help!

### **Core Objectives:**

By the end of this course, students should be able to:

- 1) Infer mechanisms of gene inheritance for a particular trait, given phenotypic lineage data.
- 2) Diagram differing mechanisms of generating phenotypic variation in populations;
- 3) Explain the strengths and limitations of current technologies that use genetics.

**Required Texts:** *Genetics: From Genes to Genomes*, 7<sup>th</sup> edition by Hartwell, et al. (McGraw-Hill publishing). If you do not care about having a hard copy of the book, you can get everything you need off of McGraw-Hill CONNECT, which also has a Solutions Manual and Study Guide. You will be able to access the CONNECT website unique to our class through the Canvas “Connect Access” Page in the “Welcome to BIO 325!” Module.



### Grading Policy:

| Assessment                                  | Points Earned |
|---|---------------|
| 4 50-point quizzes                          | 200           |
| Homework, Discussion, & Lecture Assignments | 300           |
| Final Exam                                  | 100           |
| <b>Total</b>                                | <b>600</b>    |

| Percentage       | Letter Grade |
|------------------|--------------|
| 93.5% and above  | A            |
| 90% - 93.49%     | A-           |
| 86.5% - 89.99%   | B+           |
| 83.5% - 86.49%   | B            |
| 80% - 83.49%     | B-           |
| 76.5% - 79.99%   | C+           |
| 73.5% - 76.49%   | C            |
| 70% - 73.49%     | C-           |
| 66.5% - 69.99%   | D+           |
| 63.5% - 66.49%   | D            |
| 60% - 63.49%     | D-           |
| 59.99% and below | F            |

**Re-Grade Policy:** After each assignment, you should review your responses, both to learn from your errors and to double-check for accuracy. Should you find a grading decision with which you disagree, you must submit **to Dr. Bradbury a written justification of your answer** no later than **one week from the time the assignment was returned.**

### Teaching & Learning Philosophy:

An important part of succeeding in this course is understanding the underlying philosophy behind my teaching strategies. Education should be valued for its ability to grow and strengthen the mind. I expect you to be engaging in this course because you desire to improve yourself and your cognitive abilities. This attitude carries with it an implicit sense of self-responsibility for one's own learning. I am not here to *teach you* as much as I am here to *help you learn*. I do my best to craft my courses to provide a diverse set of learning opportunities, including lectures, but just as much of the course content will be communicated with readings and other exercises. Similarly, there is a vast body of literature that cannot be formally included in the course but which I encourage you to explore in your quest for understanding specific facets of course content. I cannot tell you "everything you need to know"—that's not how true learning works. However, I am committed to providing you with the best possible learning environment to expand your understanding of the science and systems of life!

### Class Teaching Modality:

This class is a "hybrid" on-line and in-person class. This teaching modality affords your teaching team the flexibility to change how course instruction is delivered depending on the status of the on-going pandemic. We strive to conduct as much of the class in-person as possible, however, safety is our highest priority. Thus, we will likely have both in-person and synchronous on-line course components throughout the semester. Check Canvas for weekly updates on instruction implementation.



## University Policies:

**Religious holy days:** A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence.

**Students with Disabilities:** Please notify your instructor of any modification/adaptation you may require to accommodate a disability-related need. You may find out more information on the Services for Students with Disabilities website: <http://diversity.utexas.edu/disability/> and/or <http://diversity.utexas.edu/disability/how-to-register-with-ssd/>

**Policy on Scholastic Dishonesty:** Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information, please visit the Office of Student Conduct and Academic Integrity website at <http://deanofstudents.utexas.edu/conduct/>.

**Use of E-mail for Official Correspondence to Students:** All students should be familiar with the University's official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. The complete text of this policy and instructions for updating your e-mail address are available at <http://www.utexas.edu/its/policies/emailnotify.html> .

**University of Texas Honor Code:** "As A Student Of The University Of Texas At Austin, I Shall Abide By The Core Values Of The University And Uphold Academic Integrity."