

BIOL 3301

Genetics



Instructor: Dr. Emerson Crabill

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Office: CAV 003C

Office Hours: By Appointment

Course Information

Course Description

This is a course in general genetics. Topics are organized into three major areas: cytogenetics, molecular genetics and classical genetics.

Prerequisite and Co-requisite Courses

Credit for Biology 1306/1106 and 1307/1107 or Biology 2323/2123 and 2324/2124 with a grade of "C" or better.

Student Learning Outcomes

Upon completion of this course, students will be able to:

- Communicate effectively on the topic of genetics
- Understand genetic inheritance
- Understand the flow of genetic information
- Understand how gene expression is regulated
- Be aware of new technologies used to manipulate genes and its impact on biology more generally

Course Delivery

This is an online course that will be delivered via Blackboard and Top Hat. **Error! Bookmark not defined.** If you choose, you can complete this course without visiting the ASU campus.

The class is asynchronous, that is there is no set time for each lecture.

Each week will be broken down into 4 topics on Top Hat and there will be videos for each lecture and questions corresponding to the videos. There is an exam over that week's material **due every Friday by midnight.**

You can work ahead, but each week's test and final are due at that time.

Please refer to this [Health and Safety web page](#)**Error! Bookmark not defined.** for updated information about campus guidelines as they relate to the COVID-19 pandemic.

Required Texts and Materials

[Essentials of Genetics](#), Klug et al., Tenth Edition, Pearson/Prentice Hall, 2007.

Technology Requirements

To successfully complete this course, students need to purchase access to Top Hat. Lectures and daily assignments will be available through Blackboard or Top Hat. All lecture notes and Exams will be administered through Blackboard.

Top Hat

We will be using Top Hat Pro (www.tophat.com) for class participation. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Getting-Started-with-Top-Hat>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as provides a brief overview to get you up and running on the system.

An invitation will be sent to you by email. If you do not receive this email, you can register by simply visiting our course website: <https://app.tophat.com/e/204859>

Note: our course Join Code is 204859

Top Hat Pro may require a paid subscription, and a full breakdown of all subscription options available can be found here: www.tophat.com/pricing.

Communication

I will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Written communication via email: All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

Virtual communication: Office hours may be done with the assistance of the Collaborate.

Grading

Evaluation and Grades

Course grades will be determined as indicated in the table below.

Assessment	Percent of Total Grade
Exam I	100
Exam II	100
Exam III	100
Top Hat Questions	100
Total	400

Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

A = 360-400 points

B = 320-359 points

C = 280-319 points

D = 240-279 points

F = 0-239 (Grades are not rounded up)

Assignment and Activity Descriptions

Each Lecture video will have questions associated with it on Top Hat. Those questions are **due by Friday at midnight of the week they are assigned.**

General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)¹
- [Angelo State University Catalog](#)²

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university's [Statement of Academic Integrity](#).³

Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the [Student Disability Services website](#).⁴ The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would

keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#)⁵ for more information.

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for [Observance of Religious Holy Day](#)⁶ for more information.

Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.⁷

Required Use of Masks/Facial Coverings by Students

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory [Facial Covering Policy](#)⁸ to ensure a safe and healthy classroom

experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

Course Schedule

Date	Topic	Due Date
Jan. 4	Introduction to Genetics	Jan. 8
Jan. 5	Mitosis and Meiosis	Jan. 8
Jan. 6	Mendelian Genetics and Modification of Mendelian Ratios	Jan. 8
Jan. 7	Sex Determination	Jan. 8
Jan. 8	EXAM I	Jan. 8
Jan. 11	Chromosome Mutations & Linkage and Chromosome Mapping in Eukaryotes	Jan. 15
Jan. 12	Genetic Analysis and Mapping in Bacteria & DNA Structure and Analysis	Jan. 15
Jan. 13	DNA Replication	Jan. 15
Jan. 14	Genetic Code and Transcription	Jan. 15
Jan. 15	Exam II	Jan. 15
Jan. 18	Translation and Proteins	Jan. 22
Jan. 19	Gene Mutation, DNA Repair, and Transposition	Jan. 22
Jan. 20	Regulation of Gene expression	Jan. 22
Jan. 21	Recombinant DNA Technology	Jan. 22

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- 1 <https://www.angelo.edu/student-handbook/>
 - 2 <https://www.angelo.edu/catalogs/>
 - 3 <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>
 - 4 <https://www.angelo.edu/services/disability-services/>
 - 5 <https://www.angelo.edu/content/files/14197-op-1011-grading-procedures>
 - 6 <https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of>
 - 7 <https://www.angelo.edu/services/title-ix/>
 - 8 <http://www.texastech.edu/downloads/ttus-policy-face-coverings.pdf>