

## Genetics - Erzen

**Course Description:** This course is designed as an advanced Biology course. It is intended for the student considering Biology as their future area of study in college.

This course will provide students with an in-depth knowledge of heredity and the process by which it occurs. The three major branches that will be focused on in considerable depth are: 1) the study of passing traits from one generation to the next; 2) the study of chemical structure of genes; and 3) the study of the variation of genes between and within populations. Laboratory work will be a critical and irreplaceable part of this course, allowing the student to make individual detailed observations and data interpretations.



### **Alignment with the Next Generation Science Standards:**

Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.

**Assessments:** Formative – Small group and large group discussion.  
Summative – Homework, quizzes and tests.

### **Content:**

#### *First Quarter*

Chapters 1– Intro to Genetics / Forensics

Chapter 3 / 2 – Human Development / Crime Scene

Chapter 4-5/ 3 - Mendel's Laws / Physical Evidence

#### *Second Quarter*

Chapter 6-7/10 – Sex & Inheritance / Hair & Fiber

Chapter 8/9 – DNA & Chromosomes

Chapter 17/14 – Genetic Engineering/ Fingerprints & Documents

**\*\*Subject to change\*\***

**Instructional Strategies :** Large and small group discussions, Lab participation

**Resources:** Human Genetics by Rick Lewis  
Forensic Science by Richard Saferstein  
Who Killed Henry Ward? by Ward Science

**Academic/Behavioral Expectations:**

All assignments will be due on the date assigned when the project is given in class. If the assignment is not completed on time, apart from a verifiable reason, such as illness, the assignment will be worth only 50% of the original value.

If the assignment is not completed within the chapter it is assigned, it will be recorded as a 0 in the gradebook.

All students are expected to be in the room when the bell rings. Students will serve a 10 minute detention before or after school for the 3rd tardy and all subsequent tardies. Students are reminded that biology is a lab course and they are expected to conduct themselves in an orderly and safe manner. Inappropriate behavior may result in the removal from the lab setting and 0 points.

**Grading:** Students grades will be based on daily assigned work, projects, and quizzes and tests to accompany each chapter.

Grading Scale

100-93	A
92-90	A-
89-88	B+
87-83	B
82-80	B-
79-78	C+
77-73	C
72-70	C-
69-68	D+
67-63	D
62-60	D-
59-0	F



Extra Credit: Opportunities for extra credit will be offered throughout the course, and can be used to enhance your grade. Extra credit is not a substitute for daily work. In order to qualify for extra credit, students must have all daily work completed and on time for the current chapter in which the extra credit is offered.

**Communication Plan:**

Phone 563-552-5631  
[gernzen@dbqschools.org](mailto:gernzen@dbqschools.org)

**Extra Help:** If you have any concerns or questions about the course, or any general items, please feel free to talk to me. I will try to make the best accommodations possible to make your learning experience more successful. I am available first period, A lunch, and before and after school during non-coaching seasons