



Course Syllabus
BIO 211- Principles of Genetics

Tentative Course Outline and Schedule for fall semester, 2008.

Prerequisites: Biology 131 and 133.

Instructor : Dr. Halima Bello
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Texts : An Introduction to Genetic Analysis – 9th Ed. By Griffiths, Miller, Suzuki, Lewontin, Wessler, and Gelbart. .

Learning Objectives:

1. Students will gain an understanding of the cellular principles of genetics – mitosis, meiosis.
2. Students will learn and apply the principles of gene structure, regulation and mutation.
3. Students will learn the principles of Medelian genetics and mapping
4. Students will work in the laboratory to apply principles of recombination, mutation and identification of genes

Mark Distribution :

2 Midterm Exams	30%
Lab reports / quizzes	30%
Final Exam	40%

This course consists of 3 hours of lectures per week, plus a 3-hour lab.

The midterm and final exam will be a combination of multiple choice questions, as well as short and long answer questions. While most questions will be based on lecture material, the textbook reading will absolutely help in the understanding of this material. Attendance at lectures will help ensure success on course exams and assignments.

<u>Dates</u>	<u>Topic</u>	<u>Text Chapters</u>
<u>Week of</u>		
Sept. 8	Intro to Genetics	1
	Inheritance – sex-linked vs autosomal	2
Sept. 15	Independent assortment of genes	3
Sept. 22	Crossing over / recombination	4
Sept. 29	Genetic mapping	4
Oct. 6	Bacterial and Viral genetics	5
Oct. 13	Gene interactions	6
Oct. 20	DNA structure and replication	7
Oct. 27	DNA transcription / Translation	8, 9
Nov. 3	Mutation, Repair and Recombination	15, 16
Nov. 10	Regulation of gene expression In Prokaryotes and Eukaryotes	10, 11
Nov. 17	Dynamic Genome	14
Nov. 24	Gene Manipulation and Isolation	20
Dec. 1	Medical genetics / genetic testing	16
Dec. 8	Genetic Bio-ethics / Review	

Laboratory Schedule

Attendance at the laboratory sessions is **COMPULSORY**. Any lab missed without a valid excuse cannot be made up. A valid excuse (such as illness, death in the family etc.) must be validated by written proof from a doctor or counselor. Lab coats are not required. Labs will begin the week of September 15th.

Lab Topics will include:

Autosomal and sex-linked genes

Dihybrid crosses

Tetrad analysis

Recombination / deletion.

Complementation

Grading Scheme

A	90-100%	C	63-66%
A-	85-89%	C-	60-62%
B+	80-84%	D+	54-59%
B	76-79%	D	50-53%
B-	70-75%	F	Below 50%
C+	67-69%		