**GENETICS**

**Course Prerequisites:**

**Successful completion of Biology**

**I. Introduction:**

**The Genetics course is designed to help students learn to integrate the most important concepts in classical and molecular genetics into an overall picture of what a gene is, how it functions, how it may be altered and how it is inherited. This lecture, laboratory oriented course will emphasize higher order thinking skills using online activities, laboratory investigations, and problem solving activities. Students will learn about recent advances in biotechnology and discuss the biblical and genetic implications these advances may have.**

**General Objectives and Sequential Timeframe:**

**1. Students study a variety of topics that include:**

* + 1. **Unit 1:Introduction to Genetics ( including a short history ) (2 weeks) 1,2**
    2. **Unit 2: Cytological bases of Inheritance ( 2 weeks) 3, 4**
    3. **Unit 3:Mendelian Genetics: Monohybrid Inheritance Dihybrid Inheritance ( 2 weeks) 5,6**
    4. **Unit 4: DNA, RNA Protein Synthesis ( 3 weeks)) 7, 8,9**
    5. **Unit 5: Sex Inheritance and determination Linkage groups Multiple alleles and pseudoalleles, chromosomal abnormalities ( 3 weeks) 10,11,12**
    6. **Unit6: Genetics of Behavior, Immunity and Cancer(2 weeks) 13,14**
    7. **Unit 7: Probability and Goodness of Fit /Hardy Weinburg ( 2 weeks) 15,16**
    8. **Unit 8: Genetic Testing and Counseling ( 2 weeks) 17,18**

**Textbook used**:

Concepts of Genetics seventh edition. Prentice Hall, 2003

**Grading Scale:**

25% homework,  25% labs,  25% Test,   25% quiz

**Supplies needed:**

pen/paper, notebook,  Scientific calculator, flash drive