**Outline for the Second Part of the Bio Final**

**Terms to Know:**

Molecular Biology

Bacteriophage

Codons

Anticodons

Genetic Code

Amino Acids

Polypeptides

Proteins

Helicase

Ligase

Polymerase

Chapter 10: DNA

* DNA Structure
* DNA vs. RNA
* DNA Replication, Transcription, and Translation
* Introns vs. Exons
* Function of mRNA, tRNA, and rRNA
* Know how to find the complementary DNA strand
* Know how to code mRNA from DNA
* Know how to code for amino acids
* Types of Mutations
  + Inversion, Deletion, Insertion, Duplication, Translocation

Chapter 13: Microevolution

* Natural Selection, Genetic Drift, Gene Flow
* Relative Fitness
* Evidence and Causes of Evolution

**More Terms to Know:**

Clone

Stem Cells

Restrictive Enzymes

DNA Profiling

Chapter 14: Speciation

* Adaptive Radiation
* Types of Speciation
  + Sympatric, Allopatric, Gradualism, Punctuated Equilibrium
  + Reproductive vs. Geographic Isolation

Chapter 15: Macroevolution

* Convergent vs. Divergent Evolution
* When the Earth Evolved
* Biogeogrpahy, Continental Drift, Mass Extinctions
* Human Evolution
* 4 stages in which how life was thought to be evolved

Chapter 16: Viruses, Bacteria, Archaea

* Binomial Nomenclatures, Cladograms, Evolutionary Trees
* Viruses
  + Capsid vs. Bacteriophage
* Bacteria
  + Gram Positive vs. Gram Negative
  + Peptidoglycan
  + Cocci, Baccili, Spiral
* Archaea
  + Halophiles, Thermoacidophiles, Methanogens

Chapter 17: Fungi

* 7 Characteristics (found in notes)

Know the Levels of Classification

* Fungal Partners
  + Michorrhizae vs. Lichens

Chapter 18: Invertebrates and Vertebrates

* Symmetry
  + Radial vs. Bilateral
* Body Cavities
  + Acoelomate, Pseudocoelomate, Coelomate
* Phylums and examples of organisms in them

Chapter 19: Vertebrates

* 4 features of chordates
* Tetrapods
  + Amphibians vs. Reptiles
* Mammals
  + Monotremes, Marsupials, Eutherians

Chapter 36: Population Ecology

* Factors that affect population
  + Natality, mortality, immigration, emigration
* Types of Population Growth
  + Exponential vs. Logistics
* Factors that limit population growth
  + Density Independent vs. Density Dependent
* Population Density – Life Histories
  + K-strategies vs. r-strategies

Chapter 37: Communities

* Habitat – Ecological Niche
* Interactions
  + Predator Prey
  + Competition
    - Inter vs. Intra –specific
  + Symbiosis
    - Mutualism, Commensalism, Parasitism, Detrivore, Saprophyte
* Energy in an Ecosystem
  + Producers
    - Number, Gross vs Net Primary Productivity
  + Energy Pyramids
  + Food Chain
  + Food Web

Pig diagrams

Know how to create a cladogram, trophic pyramid, and food web