**AP Biology**

**Unit 6 (Molecular Genetics) Test Topics**

* Discovery of DNA as the genetic material
  + Griffith
  + Hershey-Chase, Avery
  + Franklin
  + Chargaff
  + Watson and Crick
* Genetic code is universal – what does that mean?
* Structure of DNA
* Central dogma (DNA 🡪 RNA 🡪 protein)
  + Names of processes
  + Descriptions of processes
* mRNA processing in eukaryotes
* Telomeres/telomerase
* Mutations
  + Types and effects
* Differences between transcription in prokaryotes and eukaryotes
* Differences between DNA in prokaryotes and eukaryotes
* Control of gene expression in prokaryotes
  + Lac and trp operons
  + Inducible versus repressible operons
* Control of gene expression in eukaryotes
  + Methylating
  + Acetylating
  + Euchromatin versus heterochromatin
* Viruses
  + Lytic versus lysogenic cycle
  + Reverse transcription
* Biotechnology (purpose, steps)
  + PCR
  + Recombinant DNA
  + Electrophoresis
  + transformation