MARTIN LUTHER KING HIGH SCHOOL

Mr. Williamson

BIOLOGY COURSE SYLLABUS

2013-2014

Below is a *rough* syllabus of the biology course for the year. Subjects may be added or removed at the teacher’s discretion.

1st Semester

* Unit 1 – Science/Biology Basics
  + Class expectations
  + Safety
  + Scientific Method
  + Fields of Science
  + The Metric System
* Unit 2 – Chemistry/Biochemistry
  + Atoms
  + Molecules
  + Bonds
  + Ions
  + Isotopes
  + pH
  + Carbohydrates
  + Lipids
  + Amino Acids
  + Nucleic Acids
* Unit 3 – Cells
  + Organelles
    - Form
    - Function
  + Animal vs. Plant Cells
  + Homeostasis
* Unit 4 – Energy
  + Respiration
  + Photosynthesis
* Unit 5 – DNA/Protein Synthesis
  + Structure
  + Form
  + Function
  + Transcription
  + Translation
  + Amino acid sequencing
* Unit 6 – Mitosis/Meiosis
  + Interphase
  + Prophase
  + Metaphase
  + Anaphase
  + Telophase
  + Somatic vs. reproductive cells
* Unit 7 – Genetics
  + Mendel
  + Dominance/Recessive Genes
  + Independent assortment
  + Crossing over
  + Sex linked traits
  + Monohybrid crosses
  + Dihybrid crosses
  + Frame shift mutations
  + Addition/deletion mutations

2nd Semester

* Unit 8 – Evolution
  + History
  + Darwin
  + Adaptation
  + Variation
  + Environmental changes
  + Disruptive adaptations
  + Directional adaptations
  + Behavioral adaptations
  + Morphological adaptations
  + Physiological adaptations
  + Speciation
  + Geographic isolation
  + Reproductive isolation
  + Natural Selection
  + Artificial Selection
  + Human evolution
* Unit 9 – Taxonomy
  + Digestive system
  + Respiratory system
  + Excretory system
  + Muscular and skeletal system
* Unit 10 – Dissections
  + Ascaris
  + Lumbricus
  + Perch
  + Human Torso
  + Fetal pig
* Unit 11 – Ecology