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