BIOLOGY 2019-2020 1ST SEMESTER

UNIT	TITLE	DURATION	CHAPTER(S)	EXAM
1	ECOLOGY & BIODIVERSITY	4.5 WKS	35-37, 38 p.923	10/8, 9

TOPICS: Species, population, community, ecosystems, biotic and abiotic factors, producers, consumers, decomposers, food webs, growth curves, predator-prey relationships, niches, nutrient cycles (water, carbon, nitrogen), succession, levels and benefits of biodiversity

2	SMALL TO LARGE MOLECULES	4.5 WKS	2	11/20, 21

TOPICS: Form & Function, Basic Chemistry, Water, bonds, pH scale, carbohydrates, lipids, proteins, enzyme lab, DNA, Dehydration Synthesis & Hydrolysis cutouts, graphing review

3	CELL STRUCTURE	3 WKS	3.2-3.4	12/16, 17

TOPICS: Pro- vs. Eukaryotes, Plant vs. Animal cells, microscope investigation and observation, critical organelles and their function, Lipid bi-layers, permeable membranes

4	CELL TRANSPORT	2 WKS	3.5	1/9, 10

TOPICS: Passive transport, Osmosis, Diffusion, Concentration gradients, Active transport, Sodium-potassium pump, endo- and exocytosis

5	ENERGY IN CELLS	3 WKS	4.1-4.3	1/22, 23

TOPICS: Cellular respiration, human metabolism, why do you eat, why do you breathe, connections, photosynthesis, equations, plant growth chambers

	SEMESTER FINAL EXAM REVIEW	1/24, 27
	1ST SEMESTER FINAL EXAM	*1/28, 29*

BIOLOGY 2019-2020 2nd SEMESTER

UNIT	TITLE	DURATION	CHAPTER(S)	EXAM
6	CELL DIVISION	3 WKS	5, 7.2, p.168	2/20, 21

TOPICS: Sexual, asexual, Mitosis, replication, Meiosis, recombination, sperm, egg, chromosomes, karyotype

7	MOLECULAR GENETICS	3 WKS	8.1, 8.3	3/13, 16

TOPICS: Molecular Genetics, DNA-> mRNA->protein->trait, transcription, translation, mutations, CRISPR-cas9

8	MENDELIAN GENETICS, exceptions	3 WKS	6	4/9, 13

TOPICS: Inheritance, dominant and recessive alleles, genotype, phenotype, pedigree diagrams with diseases, incomplete dominance, codominance, skin color, eye color

9	EVOLUTION	4.5 WKS	10	5/12, 13

TOPICS: Changing environments, adaptations, Horse Fossils, Darwin's theory using hand signals, evidence, natural selection case studies (mice, moths, finches)

10	THE MICROBIOME	1.5 WKS	articles/video	5/27, 28

TOPICS: Gut Bacteria, related diseases, presentations, graphing experimental data

11	SPECIMEN IDENTIFICATION	1.5 WKS	local flora	6/2, 3

TOPICS: Native vs. invasive species, local plant biology, graphing experimental data

	SEMESTER FINAL EXAM REVIEW	6/4, 5
	2ND SEMESTER FINAL EXAM	*6/8, 9*