Ecology

Syllabus

Shannon Goodin-Beaty

2017-2018

COURSE DESCRIPTION: This course will be an in depth study of the cell processes including lab safety and procedure, recording scientific processes accurately and clearly for publication, coverage of all the major science skill sets, organizing and understanding of scientific data, and overall nature of science. Students will delve into the concepts of matter and energy flow relationships throughout ecosystems and cellular originations, structure and function of cells, ecology, characteristics of life, growth and heredity patterns, as well as theories origins of biology.

WELCOME: *You have chosen a class that will challenge and stimulate growth as well as develop a love for the science of living things. The course is a rigorous undertaking of biological concepts and independent study.*

GRADES: Grades are calculated on a percentage basis. The grades will be broken down by the type of assignment given. Grades will be divided into the following categories: Tests will count 40%, laboratory and reports will count 25%, Quizzes and projects will count 20%, daily assignments and notebook/journal will count 15%. The students will be given a letter grade based on the following percentage scale: 93-100%=A, 85-92%= B, 75-84%=C, 70-74%=D, below 69%=F.

- **Exams**: Exams will be given over most major chapters, but will sometimes be in combination with multiple chapters or materials. They will always be announced ahead of time. Students that are not present on test day will take the make-up test at the end of the nine weeks during their homeroom time. Students will only be allowed to make up 1 exam during the nine weeks. If student misses multiple chapter tests, they will be given alternative assessment.
- **Laboratory**: Multiple laboratory assignments will be given during each chapter. They will be completed along with a formal written laboratory procedure. Students will be given grades for both each time they are completed.
- **Quizzes**: Quizzes will be given on both an announced and unannounced basis. Students are asked to review their work daily, read through the assigned materials and always become familiar with the materials, and complete assignments as they are given, because all are subject for quizzing purposes.
- **Projects**: Each student will be asked to complete a major project each nine weeks. There will be multiple choices available most nine weeks to choose from. Some projects will be group

oriented, but most are individually based. Each project will be accompanied by a formal project report detailing the project.
    - ***In conjunction to projects, each student will participate in the STEM FAIR. This can be a couple's project and can result in replacement of a test grade.***
    - Students will be provided a small spiral notebook to keep in the classroom as their journal. This will contain warmups/brain teasers/EOC-VOC words. This will also be graded as is the notebook.
- **Assignments:** Students will be given assignments throughout the chapter. Some assignments will be given as group work and some given as individual work. Student participation is a requirement. Assignments will be completed on time, and turned in when due. Tardy work may or may not be accepted.
    - If tardy work is accepted it will begin grading at a 70%. Incorrect responses will count off from that point.
    - All assignments that are not turned in will result in a 0 in the gradebook.
    - If an assignment is taken up and is not finished, the teacher will identify the portion that needs to be completed before the grade will be recorded. If a student turns in their work, not completed, but worked during said assignment, their grade will be reflected in the gradebook as a 1 until it is completed and turned in. That shows the teacher that the student was prompt on their assignment, but needed extra time to complete.

COURSE EXPECTATIONS: All students are expected to participate in all activities. This is an honors class and will be treated as such. The students are expected to go beyond the teaching and will be asked to infer from present and past materials on a daily basis to complete different assignments. Not all testing will be multiple choice, but play a

GOALS: It is the goal of the school district to make lifelong learners of each student. It is my goal to make life long science learners of each student. I hope to inspire each student to pursue careers in the subject be presenting each with the many different opportunities that the science field offers.

CLASS RULES: All rules in the student handbook (SH) apply in my classroom as well. Along with laboratory safety rules, which will be discussed at a later date, Mrs. Goodin's classroom rules are as follows:

- Be in your seat with your materials ready when the bell rings. Begin the warmup in your journal when you enter the room.
    - Being out of your seat gathering materials does not count as on time.
    - Sliding into the classroom as the bell is ringing does not count as on time.
        - Both of these will result in being wrote up with a tardy (see SH)
        - **There will be no leaving the classroom 10 minutes after the bell or 10 minutes before the bell**
- Bring all materials to class with you every day.
    - Textbooks, paper, writing utensils, notebooks, etc
        - You will not be allowed to leave class to retrieve these items once the bell has rung.

- Go to the restroom between classes. Everything that we do in class is important and you are expected to be in there the whole time. Restroom breaks will only be allowed in a must needs basis, and not during quizzes or tests at all.
- No horseplay in the classroom
- Students are not to be in the lab area unless assigned
- Students are not to be at teachers desks at any time, without permission
- Attendance is a necessity to ensure success in the class. If a student is out, an excuse is required to gather any materials given or assigned during the absence. Students will not be allowed to make up work if the absence is unexcused.
- The teacher dismisses from class, not the bell. We do not line up and wait for the bell.
- No food or drink in the classroom. This is a lab class and we are not allowed to have food or drink in labs.
- Cell phones are not to be out in class. If they are visible, they will be taken up and turned into the office. Consider this your warning. All purses, bags, and materials other than your assigned materials are not to be on the desks during class.
- There will be no talking during tests or quizzes. This will result in an automatic zero.
- If there is ever an issue with assignments, please see the teacher before the assignment is due. Do not wait until the due date and attempt to plead your case.
- If the student participates in sports or other extracurricular activities that are going to cause them to miss class, the student needs to inform the teacher before the said activity. They will be expected to take any quiz or test before their said absence. If they have assignments due the day of the absence, the student is expected to turn in the assignment before their dismissal. IF that protocol is not handled by the student, it is the teacher's decision to accept or deny the assignment or tag with penalty.

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EOC Vocabulary List:

- Biology
- Organization
- Cell
- Unicellular
- Multicellular
- Organ
- Tissue
- Organelle
- Homeostasis
- Metabolism
- Cell division
- Gene
- Domain
- Kingdom
- Ecology
- Ecosystem
- Natural selection
- Adaptation
- Scientific method
- Observations
- Hypothesis
- Prediction
- Experiment
- Control group
- Variable
- Theory
- Microscope
- Metric system
- Base unit
- Biogenesis
- Spontaneous generation
- Fossil
- Phylogeny
- Matter
- Mass
- Element

- Atom
- Nucleus
- Proton
- Neutron
- Atomic number
- Mass number
- Electron
- Isotope
- Chemical bond
- Covalent bond
- Ionic bond
- Ion
- Molecule
- Reactant
- Product
- Metabolism
- Activation energy
- Catalyst
- Enzyme
- Saturated solution
- Aqueous solution
- Acid
- Base
- pH scale
- organic compound
- monomer
- polymer
- macromolecule
- ATP
- Carbohydrate
- Protein
- Amino acid
- Enzyme
- Lipid
- Phospholipid
- Steroid
- Nucleic acid
- DNA
- RNA
- Nucleotide
- Autotroph
- Photosynthesis
- Heterotroph
- Chloroplast

- Thylakoid
- Grana
- Stroma
- Pigment
- Chlorophyll
- Chemiosmosis
- Calvin cycle
- Cellular respiration
- Pryruvic acid
- Anaerobic
- Aerobic
- Fermentation
- Glycolosis
- Krebs cycle
- Cell theory
- Plasma membrane
- Cytoplasm
- Cytosol
- Nucleus
- Prokaryote
- Eukaryote
- Organelle
- Tissue
- Organ
- Organ system
- Phospholipid bilayer
- Chromosome
- Nuclear envelope
- Nucleolus
- Ribosome
- Mitochondrion
- Endoplasmic reticulum
- Golgi apparatus
- Lysosome
- Cytoskeleton
- Microtubule
- Microfilament
- Cilium
- Flagellum
- Centriole
- Cell wall
- Central vacuole
- Plastid
- Thylakoid

- Passive transport
- Active transport
- Diffusion
- Osmosis
- Hypotonic
- Hypertonic
- Isotonic
- Contractile vacuole
- Turgor pressure
- Plasmolysis
- Cytolysis
- Facilitated diffusion
- Carrier protein
- Ion channel
- Sodium potassium pump
- Endocytosis
- Exocytosis
- Pinocytosis
- Phagaocytosis
- Vesicle
- Histone
- Centromere
- Chromatid
- Chromatin
- Sex chromosome
- Autosome
- Homologous chromosome
- Karyotype
- Diploid
- Haploid
- Binary fission
- Mitosis
- Asexual reproduction
- Meiosis
- Mitosis
- Gamete
- Interphase
- Cytokinesis
- Prophase
- Spindle fiber
- Metaphase
- Anaphase
- Telophase
- Cell plate

- Spermatogenesis
- Oogenesis
- Sexual reproduction
- Genetics
- Heredity
- Trait
- Pollination
- Self pollination
- Cross pollination
- True breeding
- F1 generation
- F2 generation
- P generation
- Dominant
- Recessive
- Law of segregation
- Allele
- Law of independent assortment
- Genotype
- Phenotype
- Homozygous
- Heterozygous
- Probability
- Monohybrid
- Punnett square
- Genotypic ratio
- Phenotypic ratio
- Testcross
- Complete dominance
- Incomplete dominance
- Codominance
- Dihybrid cross
- Virulent
- Transformation
- Bacteriophage
- Nucleotide
- Deoxyribose
- Nitrogenous base
- Purine
- Pyrimidine
- Base pairing rules
- Complementary base pair
- Gene expression
- Genome

- Operator
- Operon
- Inducer
- Oncogene
- Tumor
- Cancer
- Metastasis
- Carcinogen
- Carcinoma
- Sarcoma
- Lymphoma
- Leukemia
- Pedigree
- Carrier
- Genetic disorder
- Polygenic
- Codominance
- Incomplete dominance
- Sex-influenced traits
- Gene therapy
- Autosome
- Deletion
- Translocation
- Sex chromosome
- DNA fingerprint
- Genetic engineering
- Recombinant DNA
- Human Genome Project
- Gene therapy
- Base sequence
- Biodiversity
- Taxonomy
- Taxon
- Phylum
- Class
- Order
- Family
- Genus
- Species
- Binomial nomenclature
- Subspecies
- Cladogram
- Phylogenetics
- Cladistics

- Shared character
- Derived character
- Bacteria
- Archaea
- Eukarya
- Eubacteria
- Archaebacterial
- Protista
- Fungi
- Plantae
- Animalia
- Habitat
- Biotic factor
- Abiotic factor
- Tolerance
- Acclimation
- Dormancy
- Migration
- Niche
- Producer
- Biomass
- Consumer
-
- Biome
- Tundra
- Permafrost
- Tropical forest
- Canopy
- Epiphyte
- Coniferous tree
- Deciduous tree
- Temperate deciduous forest
- Taiga
- Temperate grassland
- Savanna
- Chaparral
- desert

Pacing Guide: Tentative

Semester 1	Semester 2
Chapter 1, Chapter 14, Chapter 15	Chapter 11, Chapter 12, Chapter 13
Chapter 2	Chapter 17
Chapter 3, Chapter 6, Chapter 7	Chapter 23, Chapter 24
Chapter 4	Chapter 25
Chapter 5	Chapter 18
Chapter 8	Chapter 19, 16
Chapter 9	Chapter 20
Chapter 10	Chapter 21

ecology 2016-2017

Statement of Understanding

By signing this contract, the parent and the student both acknowledge that they have read the ECOLOGY SYLLABUS, and that they understand and agree to adhere to the guidelines as they are stated.

Student Name printed | Student name signed

Parent name printed | Parent name signed

Parent/Guardian email: (optional)_____

Please return completed statement of understanding to your teacher, Mrs. Goodin-Beaty.

Date: _____