Wallenpaupack Area School District

Wallenpaupack Area High School
Course Title: Biology CP
Length of Course: 1 Semester

District Policies:

Academic Integrity:
Academic integrity is essential to the success of an educational community. Students are responsible for learning and upholding professional standards of research, writing, assessment, and ethics in their areas of study. Written or other work which students submit must be the product of their own efforts and must be consistent with appropriate standards of professional ethics. Academic dishonesty, which includes cheating, plagiarism, multiple submissions and other forms of dishonest or unethical behavior, is prohibited.

Assessment:
The goal of grading is to report student progress and achievement to the parents to strengthen the home-school connection. The grade should accurately reflect the student's performance in mastering the PA Standards and the WASD curriculum.

Attendance:
Regular school attendance is vitally important to academic success. Not only does attendance reinforce and enrich the learning process; it also establishes patterns and attitudes that will carry forward into adult work habits. Regular, consistent attendance is a prerequisite to successful school life. Children should be absent only in cases of illness or emergency.

Special Education:
Our commitment to each student is to ensure a free appropriate public education which begins with the general education setting, with the use of Supplementary Aids and Services. Inclusive education describes the successful education of all students with the appropriate supports and services to participate in and benefit from the general classroom settings and other educational environments.

Course Description:

This course is taught with emphasis on biological concepts. An inquiry-based, hands-on approach is used when appropriate. Topics include scientific process, genetics, cell biology, evolution, anatomy and physiology. This course is mainly for students who are planning to attend a 4-year college.

Pennsylvania State Standards:

All WAHS courses are aligned to the PA State Standards and Common Core Standards, where applicable.

Major Activities:

Textbook worksheets
Laboratory experiment
Microscope labs
Microscope observations
Internet research
Modeling
Oral presentation
Group activities
Projects
Dichotomous key activities
Textbook worksheets, internet research, group activities
Power Point Presentations
Dissection
Textbook worksheets
Lab Reports
Computer graphing

Student Responsibilities:

Homework expectations: Students complete all homework.

Make-up work: Students make-up all missed work.
Late work: Late homework not accepted. Classwork, projects and lab assignments accepted late with penalty.

Assessment:

Grading components:

Homework = 1/3

Classwork/Projects/Lab assignments = 1/3

Tests/Quizzes = 1/3

Content Pacing Guide:

Topic	Major Assignments	Estimated Time
Nature of Science	Power Point chapter 1 Value line activity Worksheets - branches of biology and text book section worksheets Microscope investigation Scientific American Frontiers video 15 minute section on pseudoscience and dowsing Demonstration of the scientific method Discussion of the scientific method Horseshoe crab activity to apply scientific method Divining rod activity Dogs and Turnips hypothesis activity Shell Observation Activity Plant Lab	10
Cell Anatomy and Features of Life	Power Point Presentation Ch. 1,7 Chapter 1 and 2 section worksheets Protein, lipid, and carbohydrate worksheet Cell observation lab Cell coloring activity Video on cells Power Point on cell diversity Food label analysis activity Diagrams and Posters Is it alive? Demonstration (glue, candle and raisins) Computer interactive labs on cells	5
Cell Processes: Homeostasis, Photosynthesis/Respiration, Cell Cycle	Text book section worksheets Power Point Presentation chapter 7 Egg/vinegar/corn syrup laboratory Elodea/Red Onion laboratory Potato Lab Osmotic Relationships of a Cell Worksheet Celery demonstration Kidney dialysis demonstration Nerve Transport video Internet tutorial on Homeostasis Membrane Transport Internet Research Text chapter 8,9 section worksheets Cabbage Fermentation Lab Photosynthesis and Respiration Lab Kinesthetic activity of Photosynthesis and Respiration Factors Affecting Photosynthesis worksheet Cycle worksheet Food Trace activity Yeast Demonstration Anaerobic vs. Aerobic Bacteria Respiration graphing worksheet	15

	Flash Cards Plant pigment lab - paper chromatography Power Point Presentation for chapter 10 Chapter 10 section worksheets Cell division modeling activity DNA Content and Protein graphs Microscope laboratories with prepared slides (onion root tip and white fish) Internet cell division interactive tutorial Surface area-to-volume ratio worksheet	
DNA and Biotechnology	Text book chapter 12 section worksheets DNA and protein synthesis (comparing human and bovine genes for insulin) Computer interactive laboratories National Geographic Video on Cloning Biology Theater activity DNA modeling activity Using pop-beads to simulate DNA mutations and the resulting changes in protein structure Bioengineering Worksheets Internet videos on DNA structure, replication and protein synthesis Super Wild Turkey Simulation	7
Embryology	Text chapter 39 section 4 reading and questions NOVA video The Miracle of Life Medaka fish egg development over two weeks Fetal Development pamphlet and worksheet Internet research worksheet on risks of pregnancy	3
Genetics	Text chapter 11, 13, 14 section worksheets Power Point ch. 11, 13 Rebop Introduction Activity Genetic word problem worksheets Genetic Faces Activity Genetics worksheets: gender determination, test cross, codominance, punnett squares, Blood typing laboratory Online blood typing interactive tutorial Genetic disorder research & brochure activity Nathaniel Wu Case Study Family pedigree project Computers for genetic research	15
Taxonomy	Ch. 18 textbook questions Kingdom chart worksheet Dichotomous key activities (turtles, fish)	2
Evolution	Text chapter 15, 16, 17, 32.3 section worksheets Power Point presentation for ch. 15, 16, 17, 32.3 Timeline activity Rabbit Allele Frequency Simulation Hardy-Weinberg allele frequency activity. Paleoanthropology worksheet and skull activity Scientific American Frontiers: Galapogos Islands Evolution Internet worksheets on Natural Selection, Coevolution, Cladogram analysis Predict Future Evolution Activity Fossil Find Activity Thumbs Activity NOVA video: The Triumph of Life NOVA video: What Darwin Never Knew	13
Anatomy and Physiology	Text book readings	8

	Computer research and power point project presentation Library books on anatomy and physiology Frog dissection	
Biomes and Ecosystems	Text Chapter 4 reading and questions	1
Current Events	Internet research, written summary, questions, oral presentation	3
Trout-in-the-Classroom	Internet research, power point	2
Testing (CDT, PSSA, PSAT, practice PSAT) and required surveys		6