AP Biology Syllabus

Personal Philosophy

Each student has their own unique individual learning style whether it is hands –on, visual, auditory or kinesthetic. So in order to accommodate the students each day consist of a different approach to learning. I have found through the years that hands on instruction seems to be retained to a greater extent than other approaches, therefore I have dedicated seventy-five percent of class time to activities which actively engage the students in the material. All twelve of the AP Labs in the *AP Lab Manual for Students* are hands on as well as many incorporated supplemental activities. The supplemental activities are either homework or quiz grades. During lectures students are actively engaged with questions I ask from the readings, unit case studies and prior knowledge they bring to the class. With this approach, my love for biology and my mission as a professional to end each and everyday knowing I gave one hundred percent effort to my students. That my goals of high expectations, enthusiasm for learning, and self-esteem for myself spills over onto my students. I will strive to create a feeling of openness without the fears of criticism, for you can only learn from failure. With these skills I will inspire students to be *critical thinkers* and acquire a love for science.

Course Overview

The AP Biology course has been scheduled to meet for 55minutes every day. Due to the constraint on time I have designed the course with that in mind. The two sections are scheduled throughout the day so that they can overlap into the next period when needed to complete the AP Labs. In order to meet the demanding course load and pace which the students are not use they are given a yearly course schedule which incorporates the reading journal guidelines and major assignments the first day of class*(see appendix one).*

To subside some of the anxiety of the class which is a mixture of juniors and seniors, I have broken some units into smaller units. At the end of each unit there is a test given. **The test** consists of multiple choice, key-term vocabulary fill in and two essay questions. The students are two pick one of the two essay questions which are modeled after the AP test in format and point value.

The AP laboratories as well as supplemental labs are done in groups of two or three which allows for limited supplies as well as improving communication skills. Each lab is

given the day ahead of time for students to familiarize themselves with the lab procedures and expectations. The majority of the labs take two days to complete and one day for discussion. The day of discussion is dedicated for evaluation of the findings and to revisit the lab concepts. To improve the students written communication skills the following AP labs require the submission of an individual formal lab report; (2)enzyme catalysis,(5)cell respiration, (6)molecular biology and (9)transpiration. The formal lab report consists of; title, introduction/background information, purpose (topic being investigated), procedure, data/results, analysis, conclusion, recommendations. The students have three days to complete the reports. The students also engage in a bacteriology lab which requires a formal lab report. The remaining labs require submission of an individual the lab packet with emphasis on the graphing, analysis and conclusion portions of the lab. **See sections bolded in syllabus for each unit.**

In addition to the essay questions for unit tests I give the students past essay questions from the AP test to prepare them for the AP exam. The questions are graded and reviewed in class. The students are assigned the multiple choice questions in their AP examination packet when the units are completed. These are graded in class and the students submit a one page reflection paper on their performance. Toward the end of the year the students are given past multiple choice questions from AP tests for preparation. In addition I have allotted one week for preparation for the test in the syllabus in addition to after school review sessions that week.

The students are also given a **Unit Case Study** at the beginning of each new Unit. The case study is due on the day of the Unit Test. They reinforce the concepts for the unit as well as present the information in a form which ties into the usefulness of today's society. Every case study reinforces **theme one –science as a process and theme eight – science, technology and society. While each individual case study covers the remaining themes depending on the unit topics.**

Course Planner

The course is organized into eight units which are broken into multiple sections due to the volume of material in each unit.

Each unit incorporates a variety of material to relate at one point or another to the eight major themes in the AP Biology Course Description. **I have bolded** a few items in the syllabus where the themes are covered. **For Exampl**e:

In Unit I (Molecules and Cells) day two and three of class is spent on **chapter one** (Exploring Life) and the scientific method lab from the Mader Lab Book. This lab emphasizes the course goal of **theme one -viewing science as a process**. In addition the first section of AP lab # 11 is incorporated.
Theme two – evolution is examined in chapter two as chemical evolution of earth and earth's first life.
Theme five – relationship of structure to function is examined in chapter five and reexamined in supplemental lab(SA) activity molecules of life. In this hand –on lab activity the students construct carbohydrates, lipids and proteins from the use of interlocking 3-D plastic manipulative and examine the structure in relation to function. In addition the concepts in chapter two in regards to chemical bonding are reexamined.
Theme six – Regulation is discussed in chapter eight in the metabolic pathways of exergonic and endergonic reactions.

The juniors in class for the remaining two weeks of school are given a project which serves as their second semester final exam grade. The students each chose a different unit in biology such as cells, mitosis/meiosis, human systems, evolution, genetics and create a review game. I will use the review games in biology class at the end of each unit. The review game must be computer generated (all playing cards, rules, game boards) Those who chose a game board blow up the game board at school to poster size. They must contain a minimum of forty questions and answers. This year some games are; Are You Smarter than an AP Bio Student and Cell-Opoly. The only game they are not allowed to imitate is Jeopardy.

AP BIOLOGY COURSE SYLLABUS

Textbook: Campbell, Neil A. & Reece, Jane B., *Biology AP Edition (7th Edition),* Pearson Education, Inc., 2005-**Including Supplemental Textbook**

Materials:. Interactive CD, Practicing Biology Student Workbook, & Biological Inquiry, A Workbook of Investigative Cases

Lab Manuals: Campbell, Neil A. & Reece, Jane B., *Biology* and *Advanced Placement Biology Laboratory Manual. These expectations are meet for AP Labs.*

Mader, Sylvia S.,*Lab Manual Biology(8th Edition),* McGraw-Hill Co. 2004.

Starr & Taggart's, *Lab Manual Biology The Unity & Diversity of Life,* Brooks/Cole-Thompson Learning 2002

UNIT	CH.	TOPICS OR CONCEPTS	SUPPLEMENTAL ACTIVITES (SA) & LABS
I. Molecules and Cells		Introduction to the course and textbook	**UNIT I CASE STUDY – Picture Perfect**
	1	**Exploring Life –Concepts covered from chapter:**	
(10 Days)		Biological Organization	SA- CD investigation – **How do Env. Factors affect Populations**
		Classifying Life	
		The Scientific Process	SA – **Scientific Method Lab #1** –Mader Lab Book
		Eleven Biological Themes	& incorporated the first section of AP lab#11
	2	**The Chemical Context of Life**	Quiz – Chapters 1& 2
		Elements and Compounds	
		Atomic Structure	SA – Practice Activity 2.1
		Chemical Bonding	**all practice activities are from**
		Chemical Reactions	**practicing biology student workbook**
	3	**Water and the Environment**	SA – Practice Activity 3.1
		Hydrogen Bonding	

		Properties of Water Acids and Bases	
	4	**Molecular Diversity of Life** Carbon Atoms Carbon Bonding	SA – Practice Activity 4/5.1 & 4/5.2
	5	**Structure & Function of Macromolcules** Carbohydrates Lipids **Proteins** Nucleic Acids	SA – **Molecules of Life Lab -** **Students hands-on construct models of carbohydrates, lipids and polypeptides**
	8	**Metabolism** Laws of thermdynamics Exergonic & Endergonic Reactions Enzymes	Lab 2: Enzyme Catalysis –Neo science lab directions, Hands on, **Formal lab write up** submitted for grade – **AP LAB** SA – Practice Activity 8.1
		Review	
		Test – Unit I	consists of multi choice (approx. 40), Key voacb term Fill in, short answer & essay formatted to AP test
II(A) Cell **(17 Days)**	**6**	**Cellular Structure and Function** Microscopes/Tools of Biochemistry Bacterial cells Eukaryotic cells	UNIT **II CASE STUDY – Bean Brew** SA- Organelle research project –**theme 5**

	7	Membrane Structure and Function Fluid mosaics Permeability Transportation	**Lab 1: Diffusion & Osmosis**, **AP lab** directions, Hands on, lab packet submitted for grade SA- Practice Activity 7.2 –build model & questions **theme 5,6**
	11	**Cell Communitcation** External signals Reception Transduction Response	SA- CD investigation -11.1 How do cells communicate with each other –**theme 2,5** SA – Practice activity – 11.1 –group simulations & questions Quiz chapter 11
	12	**Cell Cycle** Mitotic phases Regulation of cycle Review	**Lab 3A**: Mitosis – Hands on – both sections 3A –neo science beads kit simulation **3A.2 AP** lab – time for cell replication SA- Practice activity 12.1 Index cards of mitosis stages game
		Test – Unit IIA	See Test Unit I for format
II(B) Cellular Energetics (12 Days)	**8**	**Introduction to Metabolism** Laws of Thermodynamics ATP Enzymes/metabolic reactions	SA- CD activities – Energy transformations Structure of ATP, Chemical reactions & ATP **themes 2, 5,6** SA –group presentation w/poster board & class Handout of stages in respiration
	9	**Cellular Respiration** Catabolic pathways	**Lab 5**: Cell Respiration – **AP lab** directions, hands on formal lab write up submitted for grade

		Breakdown of Cellular Respiration	SA- CD investigation – How is the rate of photosyn. Measured & CD activity – Calvin cylce
	10	**Photosynthesis** Chloroplast structure Breakdown of photosynthesis Alternative mechanisms of carbon fixation	**Lab 4:** Plant Pigments & Photosynthesis **AP lab** directions, hands on, lab packet submitted for grade SA- How to use spectrophotometer handout
		Review	
		Test – Unit IIB	See Test Unit I for format
III(A) Molecular Genetics **(15 Days)**	**16**	**Basis of Inheritance** Composition of DNA DNA Replication	**UNIT III CASE STUDY – The Donor's Dilemma** SA – Codon Bingo Game
	17	**Genes to Proteins** Translation Translation Point Mutations	SA – DNA-RNA Protein Synthesis Lab Aids #72 kit Quiz – Chapters 16 & 17 SA – Article – Discovery Channel School –Who Controls Your DNA –**theme 8**
	18	**Genetics of Viruses & Bacteria** Viruses, Viroids, & Prions Genetic diversity of Bacteria Reproduction	SA- CD investigation -18.3 What are the patterns of antibiotic resistance –**theme 2** SA- Virus research project power point format **SA- video –The evolutionary Arms Race theme2,4**
	19	**Eukaryotic Genomes** Gene Expression Cancer	SA- Video: Human Genome & Cancer part II**theme1** SA – Modeling Gene Expression in the *Lac* Operon Activity – Modern Biology Text Book

		Genome Evolution	SA – CD investigation 19.2 **theme 2**
	20	**DNA Technology & Genomics** DNA Cloning Restriction Fragment Analysis DNA Mapping & Sequencing DNA Technology	**Lab 6: Molecular Biology-**Hands on, Neo science directions for Lab 6A & 6B, formal lab write up submitted for grade with 6B & class discussion of results for 6A **AP LAB** SA- Genomics Analogy Model for Educators Purdue University – online resource SA- Manipulating DNA Lab #13 – Modern Biology Lab manual
		Review Test – IIIA	See Test Unit I for format
III(B) Heredity **(12 Days)** **theme8**	**13**	**Meiosis & Sexual Life Cycles** Alternation of fertilization/meiosis in life cycles Genetic variation in sexual life cycles	Lab 3B: Meiosis- Neo science kits – beads, hands on **AP lab 3B** – paper as review for comparison comparison between mitosis & meiosis **AP lab 3B.2** – hands on SA- Exercise #13.1/13.3-Starr & Taggart's lab manual
	14	Mendel and the Gene Idea Genetic Laws Genetic Disorders Genetic Testing	SA- Neo science – Blood typing kit –**theme 5** SA- End of chapter 13/14 text genetic problems SA- Human Genetic research project brochure SA **– Online karyotyping activity** – www.biology.**C2**
		arizona.edu/human_bio/activities/karyotyping/karyotyping.html	
	15	**Basis of Inheritance** Chromosomal behavior	**Lab 7: Genetics of Organisms – AP lab directions** discussed in class & online simulation http://bioweb.wku.edu/courses/Biol114/Vfly1.asp **Wisconsin Fast Plants genetic lab**

		Linked Genes/sex-linked	SA- Combing Gametes to produce face traits activity
		Chromosomal Alterations	**Lab 7 – Statistical Analysis – M&M Statistical Analysis(chi square), hands on**
		AP Review	SA- Practice activity 14.3/14.4/15.1/15.2
		Test – IIIB	See Test Unit I for format
IV. Evolutionary Biology	**22**	**Descent with Modification**	**UNIT IV CASE STUDY – Tree Thinking**
		Darwinian Revolution	
(12 Days)		Darwin's Theory	
	23	**Evolution of Populations**	**AP Lab 8**: Population Genetics & Evolution
		Natural Selection	hands on, lab packet submitted for grade
		Genetic Drift	
		Gene Flow	**SA – video Evolution, Why sex? Theme 2,4,7**
		Adaptive Evolution	students complete a video worksheet while viewing
	24	**Origin of Species**	Lab- Evidence of Evolution Lab – Mader Lab 12
		Reproductive Isolation	sections one & two **theme2**
		Speciation	Quiz chapters 22-24
		Macroevolution	
	26	**Biological Diversity**	
		Origin of Life	SA – CD assignment chapter 26 –sections 1,2,5,&6
		Prokaryotic/Eukaryotic Evolution	**theme 2,4**
		Tree of Life/organization	

		Review	
		Test – Unit IV	See Test Unit I for format
V. Evolutionary History of Biological Diversity **(12 Days)**	**25**	**Phylogeny & Systematics** Supportive evidence Naming/Hierarchy Methods of evolutionary classification	**UNIT V CASE STUDY – Unveiling the Carboniferous** **Lab- dichotomous keys investigation 18 –Biology Lab packet submitted for grade –hands on** SA – AP student workbook –Activity 25.1 Quiz chapter 25
	27	**Prokaryotes** Structure/Function Genetic adaptations Phylogeny Environmental impacts	**SA – Koch's postulate activity – theme 8** www.troy.k12.ny.us/ths…print_versions/koch_lab_School_print.html **Lab- Bacteria** –Grow, gram stain, identify, written lab report submitted **theme 7,1,8** SA – bacteria research one page paper
	28	**Protists** Diverse group of eukaryotes Various phyla Reproductive methods	SA- assigned a clade to research and put information into outline format. Shared with class via/copies. Power Point quiz for chapter –two questions per slide of protist
	31	**Fungi** Energy source Reproductive methods Various phyla Environmental Impact	Lab – Fungi Lab – Modern Biology hands on, lab packet submitted for grade **theme 7**

		Review	
		Test – V	See Test Unit One for Format
VI(A) Plant Form & Function Construction **(8 Days)**	**29**	**Plant Diversity-Terrestrial Colonization** Evolution/adaptations Life cycles of Bryophytes Formation of first forests	**UNIT VI CASE STUDY – Corn Under** SA – Construct field Guide covering a combination of 7 phyla from nonvascular and vascular Seedless & 5 phyla from a combination of gymnosperms & angiosperms **theme 2,5**
	30	Plant Diversity -Seeded Plants Gymnosperms Angiosperms Environmental impact	
	35	**Plant Structure, Growth & Development** Three basic plant organs Roots Stems Leaves	Lab – Organization of Flowering Plants Mader lab 18 hands on, lab packet submitted for grade **theme 2,5**
		Review	
		Quiz – VIA	
VI(B) Plant Form & Function	**36**	**Transport in Vascular Plants** Structure/function of Xylem	**Lab 9: Transpiration – AP LAB** , hands on

(8 Days)		Structure/function of Phloem Transpiration/Stomata	written lab report submitted for grade
	37	**Plant Nutrition** Chemicals/life cycle Macro/micronutrients Nutritional Adaptations	SA –Article "Warm Winters Upset Rhythms of Maple Sugar" New York Times 3/3/07 **theme 6,7**
	38	**Angiosperm Reproduction** Angiosperm Structure/function Life cycle/sexual vs asexual Biotechnology/agriculture	Lab – Reproduction in Plants – Mader lab 21, incorporating flower dissection ,hands on lab packet submitted for grade **theme5**
	39	**Plant Responses to Stimuli** Internal signals/hormones External signals/abiotic stimuli External signals/biotic stimuli	Lab – Control of Plant Growth and Responses - Mader lab 20 ,hands on, lab packet submitted for grade
		Review	
		Test – VI(A) & VI(B)	See Test Unit One for Format

VIIA Animal Form & Function	**32**	**Introduction to Animal Diversity** Reproduction/development	**UNIT VII CASE STUDY – Galloper's Gut**
(8 Days)		Classification/methods	
	33	**Invertebrates**	

		Various Phyla	
	34	**Vertebrates** Phylum Chordata Subphylum Vertebrata Various Phyla *Homo sapiens*	
		Review	Test is an individual project in which they are **Assigned a vertebrate or invertebrate phyla to research** and create a brochure. The brochure will be used to complete a scavenger hunt I have designed While on the field trip to the zoo which is worth a Quiz grade. –**Theme 2,8**
		Test – VII(A)	
VII(B) Animal Form & Function 40 **(28 Days)**		**Basics/Animal Form & Function** Animal size/shape constraints Tissue Structure/Function Bioenergetics Mechanisms of Homeostasis	Lab - Muscle Function Investigation – Biology Hands on , lab packet submitted for grade **theme5** Quiz Muscular & Integument System Lab -Human Digestion Lab – Modern Biology hands on, lab packet submitted for grade **theme 2,5** SA -Activity 44.1- AP Student Workbook Quiz Digestion & Excretory System
	41.49	**Human Systems** Biosources	**Lab 10: Physiology of the Circulatory System AP,** Hands on, lab packet submitted for grade SA – Circulatory system -www .pbs.org/wgbh/nova/eheart/human.html Lab – Determining Lung CapacityA31 –

			Hands on, lab packet submitted for grade Quiz Circulatory System SA – immune system – http://resources.schoolscience.co.uk/ABPI/immune/index.html SA – Epidemiological Activity – BSCS **theme 1,8**
		Review	
			SA- Review video from Bodies Exhibit in Detroit MI. **themes 2,5,6** SA – Endocrine System – www.innerbody.com/image/endoov.html
		Test – VII(B)	Articles – The Dana Foundation's Brain in the News See Test Unit One for Format
VIII(A) Ecology **(8 Days)**	**50**	**Ecology and the Biosphere** Subfields of Ecology Aquatic Biomes Terrestrial Biomes	**UNIT VIII CASE STUDY – Back to the Bay** SA- Biome Pomes
	54	**Ecosystems** Trophic levels Ecosystem nutrient cycles Human population/cycle disruption	**Lab 12: Dissolved Oxygen** & Aquatic Primary Productivity –Part A covered in ecosystem project. Part B – **AP Lab**. Both sections Hands on-, A submitted lab report, B- lab packet submitted for grade
	55	**Conservation/Restoration Ecology** Levels of Biodiverstiy/4 major threats	SA- AP student Workbook Activity 55.1

		Methods used to maintain/restore ecosystems Review Quiz– VIII(A)	
VIII(B) Ecology **(8 Days)**	**51**	**Behavioral Ecology** Behavior Environmental Genetic Natural Selection	**Lab 11: Animal Behavior – AP part B**- Research Assignment –Article from Scientific Journal dealing w/experiment on Animal Behavior **theme 7**
	52	**Population Ecology** Density, dispersion, & demography Exponential/Logistic Growth Biotic/abiotic influences	SA- AP Student Workbook Activity 52.1 & 52.2 SA –video **The World in the Balance-The Population Paradox- Theme 8** **The students submit a two paged report about The video and their thoughts about the video**
	53	**Community Ecology** Variety of interactions Structure Biodiversity	SA – AP student Workbook Activity 53.1
			Test will involve a lab report covering a series of questions dealing with the concepts throughout unit VIIIA & VIIIB. The students are assigned either an Aquatic or terrestraial ecosystem. They must design the ecosystem so that every layer of the biosphere is incorporated into their ecosystem. Then construct the ecosystem in an aquarium. The aquarium is self –

		contained and monitored for one and half weeks. Items observed while self –contained include; behavior or organisms, & temperature. Items observed before and after closure; pH, oxygen levels, and nitrate levels of water. **Themes 1,3,4,6,7**
	Test VIIIA & VIIIB	
AP Examination	Review	Six Days
	AP EXAM - May 14, 2007	One Day
Review for Juniors	Students pick from the following biology topics and create a review game which I can use with Biology students the following year.	

AP LABORATORY INVESTIGATIONS

Lab One – Diffusion & Osmosis **Student Conducted Hands-on** **3 Days**

1. Investigate the process of diffusion and osmosis in a model membrane system
2. Investigate the effect of solute concentration on water potential as it relates to living plant tissues

Lab Two – Enzyme Catalysis **Student Conducted Hands-on** **2 Days**

1. Observe the conversion of hydrogen peroxide to water and oxygen gas by the enzyme catalase
2. Measure the amount of oxygen generated and calculate the rate of enzyme-catalyzed reaction

Lab Three – Mitosis & Meiosis **Student Conducted Hands-on** **Mitosis –2 days / Meiosis –2days**

1. The class will use prepared slides of onion root tips to study plant mitosis and to calculate the relative duration of the phases of mitosis in the meristem of root tissues or whitefish blastula. Also engaged in hands on beads that were manipulated to simulate the stages of mitosis.
2. The class will engaged in hands on beads to simulate crossing over and recombination that occurs during meiosis. They will observe the arrangements of ascospores in the asci from a cross between wild-type *Sordaria fimicola* and mutants for tan spore coat color in this fungus. These arrangements will be used to estimate the percentage of crossing over that occurs between the centromere and the gene that controls the tan spore color.

Lab Four – Plant Pigments & Photosynthesis **Student Conducted Hands –on** **3 Days**

1. Separate plant pigments using chromatography
2. Measure the rate of photosynthesis in isolated chloroplasts. The measurement technique involves the reduction of the dye DPIP. The transfer of electrons during the light-dependent reactions of photosynthesis reduces DPIP, changing it from blue to colorless

Lab Five –Cell Respiration **Student Conducted Hands-on** **2 Days**

1. Measure oxygen consumption during germination
2. Measure the change in gas volume in respirometers containing either germinating or nongerminating pea seeds
3. Measure the rate of respiration of those peas at two different temperatures

Lab Six –Molecular Biology **Student Conducted Hands-on** **4 Days**

1. In 6A plasmids containing specific fragments of foreign DNA will be used to transform *Escherichia coli* cells, conferring antibiotic (ampicillin) resistance
2. In 6B restriction enzymes digests of phage *lambda* DNA will also be used to demonstrate techniques for separating and identifying DNA fragments using gel electrophoresis

Lab Seven – Genetics of Organisms **Virtual & Student Conducted Hands –on** **4 Days**

1. Students will use living organisms to do genetic crosses(Wisconsin Fast Plants). They will learn how to collect and manipulate the organisms, collect data from the F(one) and F(two) generations and analyze the results from a monohybrid, dihybrid or sex-linked cross.
2. Students will conduct these objectives using fruit flies through the use of a virtual lab.
3. Students will analyze chi square statistics also through the use of m&m statistics hands-on lab activity

Lab Eight – Population Genetics & Evolution **Student Conducted Hands-on** **2 Days**

1. In this activity students will learn about Hardy-Weinberg law of genetic equilibrium and study the relationship between evolution and changes in allele frequency by using the class to represent a sample population.

Lab Nine –Transpiration **Student Conducted Hands-on** **2 Days**

1. Apply what they have learned about water potential from lab 1 to the movement of water within the plant

2. Measure transpiration under different lab conditions
3. Study the organization of the plant stem and leaf as it relates to these processes by observing sections of tissue

Lab Ten – Physiology of the Circulatory System Student Conducted Hands-on 2 Days

1.Learn how to measure blood pressure
2.Measure pulse rate under different conditions; standing, reclining, after the baroreceptor reflex and during and immediately after exercise. The blood pressure and pulse rate will be analyzed and related to an index of relative fitness
3.Measure the effect of temperature on the heart rate of the water flea, *Daphnia magna*

Lab Eleven –Animal Behavior Student Conducted Hands-on & Research Based 1 Day

1. Eleven A will be incorporated into the scientific method lab completed in Unit I and be hands-on. They will observe pillbugs and design an experiment to investigate their responses to environmental variables
2. Eleven B will be researched based. They will find a scientific article in a journal, which is a minimum of 5 pages long that deals with an animal behavior. They will then submit a 2 page minimum typed report for this portion of the lab which meets the following criteria:
    a. the purpose of research
    b. the scientific methods employed to reach the goal of the research
    c. the conclusion(s) reached
    d. any applications or implications this research would have to other animals, including humans

Lab Twelve- Dissolved Oxygen & Aquatic Primary Productivity Student Conducted Hands-on 2 Days

1. Students will measure and analyze the dissolved oxygen(DO) concentration in water samples at varying temperatures
2. Students will measure and analyze the primary productivity of natural waters or lab cultures using screens to simulate the attenuation(decrease) of light with increasing depth

APPENDIX ONE

AP BIOLOGY
NOTEBOOK REQUIREMENTS

In this class, keeping a notebook is required. This notebook is your responsibility. If you fall behind, it becomes increasingly difficult to catch up. When you keep up on daily or bi-weekly basis, your notebook will be an ***extremely valuable*** resource for study and doing well in this class. Please note ahead of time: PRINTER FAILURE, COMPUTER FAILURE, OR "MINE IS AT HOME" ARE NOT CONSIDERED EXCUSABLE REASONS FOR A SCHEDULED NOTEBOOK CHECK.

Basic Notebook Requirements: (Grade desired by a student is a "C")

1. **Binder:** A separate notebook must be used for this AB Biology class. All notes, assignments, handouts, computer reviews/assignments, quizzes, labs, exams etc… that have been handed back will be in a working binder. **You must have a AP Biology notebook by the end of the first week of school. There will be a notebook check at that time.**

2. **Organization:** All information found in your notebook must be organized in a way that anyone may follow the progression of its contents. There must be a **Table of Contents** page at the beginning of your notebook indicating each section in the notebook. Each section of your notebook is to be organized in chronological order. **Divider Tabs** must be used to distinguish where a new section begins.

Sections needed for your AP Biology notebook:

Table of Contents	Labs/Lab Write-Ups
Notes	Investigative Case Analysis
Key Terms	Reading Journals
Homework/Handouts	Current Events
Tests/Mock Essay Exam Questions	Quizzes

3. **Neatness:** All information in the notebook will be readable to anyone. Sloppy, scattered, or illegible penmanship will receive a mark that reflects the effort.

4. **Key Terms:** At least 3 important key terms for each chapter, we have covered to date, thoroughly defined and included in the Key Terms section. (55 x 3 = 165)

<u>Above Average Notebook Requirements:</u> (Grade desired by student is a "B")

All of the BASIC requirements above plus the following:

1. A CLEAN binder with biology relevant picture(s) on the cover.

2. WELL organized, through, and EXTRA notes, drawings, and diagrams.

3. A complete and COMPREHENSIVE Table of Contents that chronologically outlines the notebook contents must be included. It should look much like a table of contents from a textbook with key sections listed with page numbers.

4. **Key Terms:** At least 5 important key terms for each chapter, we have covered to date, thoroughly defined and included in the Key Terms section. (55 x 5 = 275)

<u>Superior Notebook Requirements:</u> (Grade desired by student is an "A")

All of the BASIC and ABOVE AVERAGE requirements plus the following:

1. ALL lab write-ups neatly TYPED, well laid out, thorough, and presented in the appropriate format.

2. **Current Event** added to each unit that we go over in class. This is a portion of your notebook that contains at least 2-pages, typed (12pt. Font, 1 inch margins) information about a current event article from a professional science journal such as *Scientific American.* One paragraph of your opinion about the information must appear within the paper along with the article or copy of the article.

3. **Key Terms:** At least 10 important key terms for each chapter, we have covered to date, thoroughly defined and included in the Key Terms section. (55 x 10 = 550)

GRADING: Your AP Biology notebook will be an important marking period grade. As mentioned previously, it will be essential for you to keep it current and up-to-date with what we are doing in class.

There will be random and announced notebook checks throughout each marking period. If you don't have your notebook or it is not up-to date on the day of a notebook check, that is YOUR problem and your grade will obviously suffer. Each notebook check will be worth a possible of 50 quiz points. At the end of each marking period, notebooks will be collected and marked for completeness. The end of the marking period notebook check will be worth 100 test points.

If your notebook is lacking one or more requirements, the grade will be lowered to the next one. In order to get a **basic, above average, or superior** notebook mark ***every*** Requirement for that category must be completely included.

AP BIOLOGY
READING JOURNAL
REQUIREMENTS

You will be required to keep a reading journal this year in AP Biology. Your reading journal will be an on-going assignment to help you process, organize, and study the required reading throughout the year. Although a reading journal is required as an on-going assignment and needs to be part of your notebook, you do have freedom and flexibility as to what you choose to focus on. The following is a description of the reading journal assignment:

1. You will need to keep a journal of weekly readings. This is in addition to classroom and on-your-own notes.

2. You should keep your reading journal in a separate section of your AP Biology notebook. It is necessary for the minimum notebook grade.

3. You must have one entry per chapter. Entries can be done at your own pace, however it is strongly recommenced that you keep current with your journal entries as it will be very difficult if you fall behind.

4. Entries must include:
    - Three main questions that you feel would be important to know the answers to about the chapter.
    - After reading the chapter, briefly answer your 3 questions.
    - List 5 main facts from the reading.
    - Sketch, label, and explain at least 1 diagram from the reading.
    - Write a brief, two-paragraph summary of the reading.

5. Reading journals will be checked at the end of each marking period. At that time, you will need to have a journal entry for **each** chapter that we have covered up to that point of the year.

6. Reading Journals, although included in your notebook, will be marked separately. Each marking period, your reading journal will be worth a test grade.

AP BIOLOGY
EXTRA CREDIT NOTE CARDS

AP Biology is a difficult class. Like anything in life, AP Biology takes goal setting, planning, organization, good habits, and determination to succeed. As life teaches, even for those who give 100%, can sometimes fall short of a goal. That's okay, we are human and we'll make mistakes. Keeping this in mind, it is common at some point for students to ask if there are extra credit opportunities to improve their grade. Here is the **only** extra credit opportunity that will be offered this year. Take advantage if you desire.

For a **maximum** of 50 points (1/2 of a test grade) of extra credit each marking period, you can do the following:

1. Use 3 x 5 note cards.
2. On one side, write a question dealing with a concept from the book.
3. On the other side, write a detailed answer using as many vocab words as possible.
4. Each complete and accurate card is worth ½ point. Therefore, 100, complete cards are needed to receive the full 50 points.
5. Note cards will only be collected at the end of each marking period.

After being marked, the note cards will be returned and make another excellent study tool in preparation for the May AP Biology Exam.

POLICIES FOR AP BIOLOGY CLASS

Work Requirements:

1. Textbook reading and studying will be a major part of this course's workload.

2. It is expected that you will be able to discuss the reading assignment in class the next day. Class participation will be factored into the marking period grade.

3. Some of the **AP labs will require a written laboratory report**. Expect to be tested on laboratory material in a quiz and/or as part of a test. Specific directions for lab reports will be given as needed.

4. **AP notebook, reading journals**, and homework

5. A written test or project will follow the completion of a unit or a large body of information.

6. During the second semester a sample essay question from **past AP exams will be assigned and should be placed into your AP notebook. Along with mock AP exams.**

*** NO CREDIT will be given for an assignment unless it is turned in on time.**

An excused absence is the only reason an assignment should not be handed in on time.

*** Some labs will require time outside of scheduled class time. FIT time and after school hours will be needed.**

Grading:

1. Grades will be determined based on the number of points earned over the marking period. Semester grades are determined by the following:

1st marking period	= 30%
2nd marking period	= 30%
3rd marking period	= 30%
Mid-term/final	=10%

2. Class participation, extra credit note cards, and a general attitude of cooperation will be taken into consideration in calculating marking period and semester grades.

APPENDIX TWO

Additional Works Cited

1. BSCS & Videodiscovery, Inc., Epidemiological Activity, 1999.

2. Holt, Rinehart & Winston, Holt BioSources Lab Program-Quick labs(A1-A34), Harcourt Brace & Co., Austin 2002

3. Holt, Rinehart & Winston, Modern Biology Laboratories, Harcourt Brace & Co. ,Austin 1993

4. Holt, Rinehart & Winston,Modern Biology Textbook, Harcourt Brace & Co.,Austin 2002

5. Kuhn, Kip, Reading Journals, Notebook Requirements & Extra Credit Note Cards Requirments, American Community Schools, 2006

6. Frey Scientific, AP Biology Labs, Neo SCI New ideas for teaching science,Rochester, NY 2006

7. Holt, Sarah, World in the Balance-The Population Paradox, NOVA, 2004

8. Buckner, Noel & Whittleseg, Robert, Evolution Why Sex? Boston Video(NOVA)

9. Willumsen, Gail, The Evolutionary Arms Race Boston Video(NOVA)

APPENDIX ONE

Additional Works Cited

1. BSCS & Videodiscovery, Inc., Epidemiological Activity, 1999.

2. Holt, Rinehart & Winston, Holt BioSources Lab Program-Quick labs(A1-A34), Harcourt Brace & Co., Austin 2002

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