

# AAEC – Paradise Valley

3775 E. Union Hills Drive  
Phoenix, AZ 85050  
Phone: (602) 569-1101  
Principal: Jack Chang



AAEC Early College High Schools  
Enriched Educational Experience

## SYLLABUS: BIOLOGY

Mrs. Amanda Schmitz

Phone: 602-569-1101 ext. 1418

Email: [aschmitz@aaechighschools.com](mailto:aschmitz@aaechighschools.com)

Web Site: <https://schmitzscience.weebly.com>

### COURSE DESCRIPTION:

This course begins with a consideration of the living condition and discussion of the unique properties of living organisms that set life apart from the non-living. It continues with molecular and cellular biology, from which it moves logically into reproduction and genetics. An understanding of genetics gives meaning to organized variation, evolution and methods of scientific classification units dealing with microbiology and plant and animal phylum. This course is designed for the college-bound student. Students should expect a demanding daily homework load as well as projects, quizzes, tests, and laboratory write-ups. A high level of understanding in problem solving and the scientific methods is necessary for success in this course.

### TOPICS PRESENTED IN BIOLOGY

#### Semester 1

##### Unit 1: The Nature of Science and Scientific Processes

- Definition of biology and hierarchy of life
- Characteristics of living things
- Scientific method and inquiry

##### Unit 2: Basic Chemistry and the Nature of Matter

- Chemistry of life
- Atoms and molecules
- Chemical bonds
- Organic macromolecules
- Monomers vs. polymers
- pH
- Enzyme function

##### Unit 3: The Cell – Membrane Structure and Function

- Cell theory
- Organelles
- Cytoskeleton
- Endosymbiosis
- Singer fluid mosaic model
- Diffusion vs. osmosis
- Active vs. passive transport
- Cell differentiation and organization

##### Unit 4: Photosynthesis and Cellular Respiration

- Life and the flow of energy
- Properties of light
- Light dependent and independent reactions
- Anaerobic vs. aerobic respiration

##### Unit 5: Cell Division

- Phases and purpose of the mitosis
- Phases and purpose of meiosis

#### Semester 2

##### Unit 6: Mendelian Genetics, Human Genetic Diseases, and Biotechnology

- Classical Mendelian genetics
- Incomplete dominance, codominance, multiple allele traits and polygenic traits
- Types of mutation
- Human inheritance
- Genetic code, structure, and regulation
- Genetic disorders
- Biotechnology techniques and issues

##### Unit 7: DNA, RNA, and Protein Synthesis

- DNA discovery, structure, and replication
- RNA and Protein Synthesis

##### Unit 8: Biological Evolution and Classification

- Charles Darwin and natural selection
- Evidence for evolution
- Populations and genetic change
- Hardy-Weinberg principle
- Speciation
- Binomial nomenclature
- Classification

##### Unit 9: Ecology and the interdependence of Organisms

- Energy flow, food webs, and pyramids
- Biogeochemical cycles
- Community interactions
- Population density and growth
- Limits to growth
- Humans and environmental change

These units and the source of instruction can change at the discretion of the instructor.

## MATERIALS REQUIRED

- Pens, blue or black ink for assignments and other colors for grading
- Pencils
- College-ruled notebook paper
- Ruler, displaying centimeters and inches
- 1.5" D-ring view binder
- Set of 5 tab dividers for binder
- Colored pencils
- Scissors
- Glue bottle or tape dispenser
- One (1) reams of 20-lb. (standard) copy paper (500 sheets)\*
- One (1) large box of Tissues\*

\*These items will be collected and kept in class

These items will **NOT** be supplied by the instructor. If the student fails to have his or her supplies, they may ask another student.

## DAILY REQUIREMENTS:

All students will be required to keep a 3-ring binder with all of their classroom materials in the binder. This binder will hold the student's vocabulary booklets, notes, classroom assignments and activities, labs, reviews and assessments. This notebook will be graded at the end of every unit.

## BELL TO BELL INSTRUCTION:

Class begins promptly with bell work (review of previous day's concept or introduction of new concepts), which leads into instruction of daily concept. Practice of these concepts occurs in a variety of activities that end in class reflection of learned material. Each unit taught includes the following activities: hands-on-lab, note taking, reading with written response, viewing videos with written response, group interaction, quizzes and exam.

## ATTENDANCE:

One of the major factors that contribute to poor grades is student absence.

**Per student handbook:** *"In order to receive credit for the semester, 90% attendance is required in each assigned class. Classes missed due to school approved activities...are excluded."* **Please see handbook for details.** While some absences are unavoidable, it is the recommendation of the instructor and school that you make every attempt to limit being absent from class. Work make up policy will be described below.

## TARDIES:

A "tardy" is defined as; a student entering the room **AFTER THE BELL HAS BEGUN TO RING**. Students who are tardy to class will need to bring a pass in order to be admitted.

**Lab Days:** If a student is tardy on a lab day and has missed the directions/instructions, it would cause a disruption of the learning environment for the other students in the class in order to get them caught up. The student will have to make arrangements with the instructor to come in after school to get the lab completed. Some labs or activities will not be able to be made up due to material, tool, or technological availability. In this case, an alternate assignment will be made available.

**CLASSROOM CONDUCT RULES - a student does not have the right to disrupt the learning of another student. Therefore the following procedures and rules are in place to ensure a positive learning environment for your student.**

This classroom has three main expectations.

1. Be respectful.
  - a. Remove hats, sunglasses, and earbuds when entering the building/classroom.
  - b. No personal grooming in class (applying make-up, doing hair, body spray, etc.)
  - c. Each student is responsible for maintaining the neatness and cleanliness of their work area (What is in front of, behind, above, and below his/her table and chair).
  - d. Will respect all school property. (**No graffiti on desks, in books, on walls, whiteboards, damage to provided supplies, etc.**)

2. Be responsible.
  - a. Students should be ready to work upon entering the classroom. Come into class quietly and sit in your assigned seat. Cease all outside conversation upon entering the room.
  - b. Students are expected to consume food, snacks, candy, and drinks before entering class. If these items are out during the class period, the teacher may ask the student to put the item away, confiscate the item, or trash the item. The only exception is water in a container with a lid, which is encouraged.
  - c. Electronic equipment (mp3 players, tablets, cell phones, etc.): Students must receive specific permission from the teacher to use cellular phones, laptops and other electronic devices in class and do so at their own risk.
  - d. Students must have School ID on them at all times.
3. Be kind.
  - a. Will show respect to all staff, instructors (teacher/substitute), and students (ALL). **(No defiance/bullying/name-calling)**
  - b. Will use appropriate language at all times. **(No profanity in any language)**

## CONSEQUENCES

From time to time students will break rules, either intentionally or unintentionally and as a result, disrupt the learning environment. It is the policy of this instructor, the school and federal mandate that no student has the right to disrupt the learning of others. Therefore, the following steps will be followed in response to disruption:

1. The student will be warned politely by the instructor, either verbally or through silent cues.
2. The student will be warned formally by individual conference outside the class.
3. The student will be removed to another classroom for the remainder of the period and a call will be made to the parent or guardian.
4. In the event of severe disruptions, the student will be removed to the office.

## GRADING SYSTEM

**GENERAL:** Your grade in this class will depend on your performance. I do not GIVE grades, I grade assignments; the students total is, a reflection of the quality of work put forth BY THE STUDENT.

**BRING SUPPLIES TO CLASS:** Students must have student materials to complete assignments every day in every class.

**PERFORMANCE:** You will be asked to stay up on your studying each day to be able to complete assignments at show that you are mastering the material being taught in class. Completion of the work is paramount to your grade and your understating of the core material that will help you at the end of the semester and in your future science classes.

**TEAM WORK:** Science, however, is a team work endeavor. Part of your grade will depend on how you act in a team. Participation, cooperation, providing assistance to others, and being in general a decent human being will all be take in to account when grades are given for labs and presentations. Most assignments are also best done in groups, where dialog and critical thinking are used to draw conclusions from gathered data. Therefore, in science, students are encouraged to work together. The exception to this are during tests or quizzes, where student communication WILL result in loss of credit.

**GRADING:** You will have many different kinds of assignments. All modeling activities are based on state standards. Since this is a hands-on approach, concepts missed because of absences will be difficult to make up, since class discussion and in-class activities cannot be done on an individual basis. It is once again stressed that you do not miss class unless it is a severe emergency.

If a student misses an assignment, a **“mi”** will be placed in the gradebook and calculated as a **“0”** for the assignment. If the student makes up the assignment, the grade will be updated once the assignment is scored. Current assignments take precedence over make-up work when scoring. Therefore, a make-up assignment will not be scored immediately and may take some time to be updated.

**PORTFOLIO/BINDER:** All work (Notes, Assignments, Quizzes/Tests, Labs and Reports) will be placed in a portfolio (binder). This will be set up according to provided guidelines and maintained by the students daily. It will include the use of a table of contents, and be maintained in a neat and organized way.

**COMPLETING ASSIGNMENTS / TURNING THEM IN ON TIME:** The single most important thing that you do is to complete assignments to the best of your ability and on time. All assignments must be completed to receive a grade. On-time is considered to be at the beginning of class on the due date. Any time after this is considered late.

**MAKE UP POLICY:** It is the student’s responsibility to check class resources for any notes or assignments they missed during an absence. These resources may include the class website, work folders in the classroom, homework or agenda boards, or ask another student what they have missed. If they cannot get the information from those sources, the student should see the teacher *before or after school* for help getting caught up.

Assignments missed due to absence are entered into the gradebook as “abs” and is calculated as a “0.” Once the student makes up the work, the zero will be replaced with the student’s score. Students have the number of days missed to complete missing work before it is considered late. For example, if the student misses 3 days, the student will have 3 days to complete and turn in all missed work.

Under normal conditions, late work is unacceptable and should not be graded. However, unforeseen situations occur. Therefore, students may turn in late assignments or NON-presentation type projects, provided they meet the criteria below.

**CRITERIA FOR LATE ASSIGNMENTS AND ASSIGNMENT RE-SUBMITTAL:** Students may re-submit or make up assignments anytime within 1 WEEK after the due date. Late work turned in before the end of that week will only receive half of the credit earned.

**PROFESSIONAL POINTS:** This assignment accounts for student participation, attendance, classroom etiquette, behavior, and student preparedness. This is calculated each day and entered weekly. Tardies affect this grade.

**TUTORING PERIOD:** Tutoring is available as needed by students. Tutoring will be held after school (2:30 to 3:15) on Tuesday through Thursday.

**ASSESSMENTS:** Assessments will be given almost every week in the form of quizzes and tests. There will be periodical labs, papers and portfolio checks as well.

**GRADE CHECKS:** Grade checks will be sent home the beginning of each week (typically Mondays) and returned with a guardian’s signature by Friday. Expect a grade check every week unless noted by teacher on class website. This assignment cannot be made up. If a student is absent the day grade checks are given, the student is responsible for seeing the teacher for their grade check the day they return to class. **ALL STUDENTS ARE EXPECTED TO HAVE THEIR GRADE CHECK SIGNED EVERY WEEK.**

UNIT EVALUATION BREAKDOWN:		PERCENTAGES FOR INDIVIDUAL SCORES	
Final Exam (District Post-Test, & Course Final Exam)	20%	100.00 – 90.00	A
Assessments ∩ (Labs, Presentations, Projects, Tests & Quizzes)	40%	89.99 – 80.00	B
Assignments ∩ (Class work, Assignments, & Professional points)	40%	79.99 – 70.00	C
		69.99 or less	F
<hr/>			
Semester Grade	100%		

**WELCOME TO THE CLASS! LET US MAKE THIS AN EXCITING AND PRODUCTIVE YEAR!**

PLEASE HAVE YOUR STUDENT PLACE THE ENTIRE PACKET IN THEIR PORTFOLIO FOR A GRADE. RETURNING THIS ACCOMPANYING SIGNATURE PAGE IS ONE OF THE FIRST SCORED ASSIGNMENTS FOR YOUR STUDENT.

# AAEC – Paradise Valley

3775 E. Union Hills Drive  
Phoenix, AZ 85050  
Phone: (602) 569-1101  
Principal: Jack Chang



## BIOLOGY SYLLABUS ACKNOWLEDGEMENT

PLEASE HAVE YOUR STUDENT PLACE THE ENTIRE SYLLABUS IN THEIR PORTFOLIO FOR A GRADE. RETURNING THIS COMPLETED SHEET IS ONE OF THE FIRST SCORED ASSIGNMENTS FOR YOUR STUDENT.



### ACKNOWLEDGMENT OF RECEIPT OF SYLLABUS

PERIOD \_\_\_\_\_

We have received this syllabus for Biology and will comply with the course rules and expectations of the class. I will keep up on my students' grades as they are given weekly

PRINT STUDENT NAME (last, first):

\_\_\_\_\_

STUDENT SIGNATURE: \_\_\_\_\_



-----  
PRINT GUARDIAN NAME (last, first):

\_\_\_\_\_

Do you have a Parent VUE account, to see all your children's grades within the district from one login?  YES  NO (*Please ask for your account name and initial password in the front office*)

Did you subscribe to the FREE text message or email reminder service for this class?  
 YES  NO (*Signup information is at the bottom of the page*)

PARENT SIGNATURE: \_\_\_\_\_



For **FREE text message reminders** of important class due dates, text the period code for your child's class to 81010.

**Biology: @schmitzbio**

## Weekly Grade Check (BIOLOGY)

**This document will be sent weekly with my signature and the student's grade for you, the guardian, to sign and have your student return each week. Please ask to see it weekly!**

**Teacher Contact Information: (email) [aschmitz@aaechighschools.com](mailto:aschmitz@aaechighschools.com) (phone) 602.569.1101 x1418**

<b>Date of Grade:</b>	<b>Grade</b>	<b>Teacher Signature</b>	<b>Parent Signature</b>	<b>Name in Gradebook</b>
<b>08/12/2019</b>				<b>Progress 1</b>
<b>08/19/2019</b>				<b>Progress 2</b>
<b>08/26/2019</b>				<b>Progress 3</b>
<b>09/03/2019</b>				<b>Progress 4</b>
<b>09/09/2019</b>				<b>Progress 5</b>
<b>09/06/2019</b>				<b>Progress 6</b>
<b>09/23/2019</b>				<b>Progress 7</b>
<b>09/30/2019</b>				<b>Progress 8</b>
<b>10/07/2019</b>				<b>Progress 9</b>
<b>10/14/2019</b>				<b>Progress 10</b>
<b>10/21/2019</b>				<b>Progress 11</b>
<b>10/28/2019</b>				<b>Progress 12</b>
<b>11/04/2019</b>				<b>Progress 13</b>
<b>11/12/2019</b>				<b>Progress 14</b>
<b>11/18/2019</b>				<b>Progress 15</b>
<b>11/25/2019</b>				<b>Progress 16</b>
<b>12/02/2019</b>				<b>Progress 17</b>
<b>12/09/2019</b>				<b>Semester 1 Final Progress</b>