

PALO VERDE HIGH SCHOOL COURSE EXPECTATIONS

COURSE TITLE: AP Biology

INSTRUCTOR: Mr. Franco

COURSE DESCRIPTION:

This is a one-year advanced laboratory course designed to meet the Nevada high school graduation requirements for science, and college entrance requirements for a laboratory science. The main focus of the course is to prepare students to take the Advanced Placement Exam in Biology. Emphasis will be placed on inquiry skills and problem solving. General areas of study will be molecular biology, cellular biology, organismal biology, and population biology. As an integral part of the course, emphasis will also be placed on the influence of science and technology in contemporary society as well as career opportunities in the biological sciences. Good writing skills are essential for this course. This course will fulfill one of the two science credits required for high school graduation and will meet the college entrance requirements for a laboratory science. **CCSD requires that each student demonstrates mastery of course content by taking the College Board AP exam.** Failure to take the exam will result in the student not receiving the weighted GPA factor of .050 (CCSD regulation 5127).

PREREQUISITES :

- Completion of Biology I Honors with a "B" or above.
- Completion of Chemistry I Honors and Physics I Honors with a "B" or above. (or concurrent enrollment in Physics I Honors)
- Completion of Chemistry I and Physics I with an "A" and teacher approval. (or concurrent enrollment in Physics I)
- Approval of last science teacher.

PRE-ASSESSMENT:

- Each student will take a pretest of a diagnostic nature to determine basic knowledge of Course Content.

POST-ASSESSMENT:

- Each student will take a post-test of a diagnostic nature to determine individual growth in Course Content.

POSSIBLE CAREERS:

| | | |
|------------------------|--------------------|----------------|
| Biologist | Coroner | Nurse |
| Zoologist | Pharmacist | Dietitian |
| Veterinarian | Genetic Engineer | Geneticist |
| Genetic Counselor | Research Scientist | Paleontologist |
| Pediatrician | Teacher | Dentist |
| Biotechnology Engineer | Doctor | |

COURSE OUTCOMES:

- When presented with an experimental problem, the student will apply the steps of the Scientific Method in the preparation, execution, and evaluation of an experiment.
- Using a variety of laboratory techniques, the student will conduct experiments, which will be summarized in written departmental laboratory format.
- Given a list of expected laboratory safety procedures, students will perform experiments without accident or injury.
- When measuring, collecting data, or performing calculations, students will report results in SI (Metric) units for all measurements.
- When applicable in a unit, students will match a list of scientists to their major scientific contribution by teacher selected oral and written methods.
- When provided with a cell model, the student must identify and describe the cellular structures and their corresponding functions in a written evaluation.
- Students will be able to identify the elements and compounds involved in cellular processes and describe each ones function in a written evaluation.
- After verbal instruction and model demonstration, students will diagram and express in written form the flow of compounds through metabolic pathways utilized in cellular processes.
- Students will correctly utilize problem-solving techniques such as Punnett squares and Hardy-Weinberg to demonstrate their understanding of the laws, terminology, and patterns of inheritance.
- Students will demonstrate their understanding of reproductive processes by diagramming and modeling reproductive patterns and strategies from the molecular to the organismal level.
- Through lecture and research, students will be able to identify, classify, contrast, and compare organisms of the 5 Kingdoms by written and illustrative methods.
- Through research, students will recognize various ecological communities and identify their environmental characteristics in a written or oral evaluation.
- After laboratory activities and lecture, students will identify tissues and structures found in plants and animals, and describe in written format the function of each structure.
- After researching the roles of hormone regulation in plants and animals, students will match the hormones with their specific function by teacher selected oral or written methods.
- When provided with computer software and accessory equipment, students will collect, display, and analyze data while participating in interactive computer labs.
- Students will explore the ethical issues related to Biology when determined applicable by the instructor in mediated group discussions and debates.

LESSON TOPICS AND TIME SCHEDULE (SEQUENTIAL):

| <u>Lessons</u> | <u>Periods</u> |
|---|----------------|
| 1. Assessment, Expectations, Class Management | 2 |
| 2. AP Biology Introduction | 1 |
| 3. Describing Data | 4 |
| 4. Safety, Nature of Science | 3 |
| 5. Themes, Chemistry | 4 |
| 6. Water and Carbon | 10 |
| 7. Macromolecules | 10 |

| | |
|----------------------------------|----|
| 8. Metabolism | 10 |
| 9. Cellular Respiration | 12 |
| 10. Photosynthesis | 12 |
| 11. Cell Structure and Membranes | 15 |
| 12. Cell Reproduction | 7 |

END of Semester 1

| | |
|--|----|
| 1. Molecular Genetics | 15 |
| 2. Heredity | 10 |
| 3. Evolution, Taxonomy and Systematics | 15 |
| 4. Ecology | 10 |
| 5. Origins and Diversity of Prokaryotes, Protista, Fungi | 5 |
| 6. Physiology | 10 |
| 7. Animal Origins, Structures, Development | 5 |
| 8. AP Labs, Student Projects, Exam Review | 20 |

END of Semester 2

MAJOR TEXT:

- Each student will receive a copy of Pearson, *Biology 7th Edition*, 2005.
- Care of the Text - The student will be responsible for care of this book for the entire school year. If the book is lost or stolen, the student will be financially responsible for the \$93.47 replacement of the book. The student will pay a portion of the total cost if the book needs repair. Book covers are required.

COURSE INFORMATION:

- **Testing** - Students will be tested on notes, laboratory activities, reading assignments, completed units, and after special areas of study. This course is treated as a first-year college biology course, and as such, tests and quizzes will be given extra weight and will comprise approximately half of the academic grade. Students can expect quizzes, announced or unannounced, which encourage students to remain current in the subject. Students can expect 1 exam per unit of study.
- **Test Review:** Exams can be reviewed before or after school with a key and the student's scantrons. Students may take notes on concepts missed. Cell phones will not be allowed during test review by the student. The teacher will remediate any missed concepts and review test taking strategies as students review their tests.
- **Assignments and Homework** - A student may be assigned homework everyday. Homework will be given verbally, written on the board, and kept in a log notebook. Assignments not completed during class may become additional homework and are due the next day. AP students can expect about 80 pages of reading per week and are expected to put in at least 6 hours of study per week.
- **Make-up** - Students have one block period per excused absence to make up work. It is the responsibility of the student to obtain make-up work from the appropriate source in the classroom, another student, website, or from the teacher.
- **Extra Credit**- Extra credit points may be earned only by participating in selected activities assigned and approved by the instructor at his/her discretion. It is the responsibility of the student to obtain guidelines and time lines from the instructor.
- **Notebook and Supplies** - Students are required to maintain a separate, neatly organized, three ring binder with the following sections: **NOTES, HOMEWORK, HANDOUTS, and**

LABORATORIES. Students are required to bring to class each day: pens, #2 pencils, lined notebook paper, and their Student Handbook.

- **Tutoring Opportunities** – I will be available to help you during the week at specific times. Whenever possible, schedule an appointment with me a day in advance, to allow for more time and better individualized assistance.
- **Laboratory Activities** - Read and study all laboratory activities to familiarize yourself with the purpose and procedures of the exercise. You must learn and follow all safety rules. **ANY SAFETY VIOLATION and/or LACK OF PREPARATION** during laboratory activities may result in an “F” grade for the activity without make-up privileges. You are NOT to wear contact lenses on laboratory days. Hair must be tied back, loose sleeves must be rolled back, and feet and toes must be fully covered by shoes. No open toed shoes. Before the end of your class, materials and equipment must be returned to their proper place. Working areas and equipment must be cleaned. Do not dispose of any chemicals or any items used in the laboratory exercise in sinks or in trashcans without receiving directions from your instructor.
- **General Behavior Guidelines** -
 - Disruptive class behavior of any nature is not tolerated. Violators will be disciplined accordingly. Consult your Student Handbook when in doubt about what constitutes proper behavior.
 - **Cheating of any nature will earn you a zero point grade on the assignment.** No make-up work or extra credit will be assigned to replace points lost by cheating.
 - You must follow all directions given by the instructor. If you do not understand the directions, raise your hand for assistance, **but make sure you have read the procedures first.**
 - Leave your area and classroom clean. Chairs must be returned to their proper place. You must report immediately any vandalism to the instructor.
- **Attendance and Tardies-**
 - Excessive absences may result in loss of class credit. Refer to your Student Handbook for further information.
 - Unexcused tardies will be documented. As soon as you arrive late, you must sign the tardy sheet before you sit down. You will be considered tardy if you are not in your seat when the bell rings. The consequences of multiple tardies will be as described in the Student Handbook.

ACROSS THE CURRICULUM ACTIVITIES

- **Organization and Class Preparation** - The teacher will advise students during the first week of school regarding the importance of being prepared daily for class. You are expected to actively participate in all class activities. Taking notes, paying attention, answering questions, and class preparation are important to your academic success. It will be required that the students have all the items listed in IX. E. above each day when class begins.
- **Writing-** Students will put into practice writing techniques that they have developed in their English classes. The teacher will include writing assignments and essay questions on exams, which will be part of the exam grade. Students may write a library report during the course of the year.
- **Reading/Learning Strategies/Study Skills** - A variety of techniques, such as two column notes, graphic organizers, mind maps, etc., will be modeled and used extensively. Students may use multi-pass to preview textbook chapters.
- **Technology** - The school-wide multimedia management system, computer labs, PC accessories, and the Internet will be used and/or taught to students throughout the year.

- **Problem-Solving Strategies** - The process of the scientific method of inquiry will be used as a guideline for solving scientific, as well as everyday, problems.

EVALUATION

- **Criteria for Arriving at Student Grades** - The students grade will be based on the cumulative number of points earned on examinations, class participation, homework, laboratory exercises, research, class assignments, and the notebook.

- **Explanation of Student Grades:**

| | | |
|----|------------|---------------|
| A | 90% - 100% | Excellent |
| B | 80% - 89% | Above Average |
| C | 70% - 79% | Average |
| D | 60% - 69% | Below Average |
| F | Below 60 % | Failing |
| IN | | Incomplete |
| NG | | No Grade |

- Grade Reports
 - Grades will be provided to students on a regular basis to notify students of their progress. Specifically, the teacher will tell the student the current grade in percentage terms. The teacher will also let the student know what he/she could do to improve.
 - A progress report will be received mid-way through each term.
 - Final grades will be reported at the end of Semester 1 and Semester 2.
- Citizenship

U - Unsatisfactory (parent will have been notified)

S – Satisfactory

O – Outstanding

N- Needs Improvement

Mr. Franco's Expectation Addendum for Parents/Guardians:

TARDIES: It is extremely important for students to realize that punctuality is an important component of classroom behavior. I do not try to decide who was running into the class as the bell rings. It is also important to create an environment that reflects the value of education. That's why **a student is considered tardy if they are not in their seat** when the tardy bell rings. They should not be standing at a friend's desk or socializing across the room. Focus should instead be on turning in homework and preparing for the days activities. In addition to enforcing the Palo Verde tardy policy, there are also some immediate consequences for tardiness in class. Homework is considered late for the day (half credit), and a student will not be allowed pass privileges during class (If it is an emergency, the student will have to serve 20 minutes of detention). One or two late assignments are not critical to determining an overall grade due to the numerous assignments given throughout the quarter. These consequences **can become** detrimental to a student's grade if they have a chronic tardy problem.

Absences: This is a Laboratory oriented class and attendance is extremely important for a student's success. I understand some absences are unavoidable, and I try to allow students to make up all absence work, but there are some labs that students can't make up. Sometimes there is no substitute for the lab experience itself, and since this is a laboratory-based class, students are held accountable for the experience gained in each lab. If the equipment or materials are still available for the student upon their return from an absence then they can make up the lab after school with me, if not then they will have to miss the points for that lab experience. Once again this is not usually detrimental to a student's grade unless they have a chronic attendance problem.

Make-Up Work: Students must see me before or after school to get work missed during absences. It is the student's responsibility to get their absence work from me immediately on their return. They will have one block day per excused absence to return all work to me. **Tests or quizzes missed must be made up before or after school.** Unexcused (UNX) or Unverified (UNV) absences will be considered late. So make sure your student gets a **note turned into the office within 3 days of the absence.** Work that was due the day of the absence needs to be turned immediately upon return.

Late Work: Daily homework or assignment checks will not be accepted. Projects, lab reports, and presentations will be given half credit.

Electronic Devices: Electronic devices in the classroom that are being used for non-educational purposes will not be tolerated. Also, please understand that to avoid discussion of the topic during class time the offending device will be confiscated and **turned in to the dean's office.** If getting in contact with your child is urgent, please call the office and they will get in contact with your student. If an electronic device must be brought to school, make sure your student knows it should be turned off and out of sight during class time.

Website and Parentlink: My webpage is <http://www.fmfranco.com>

Parents, please visit my webpage often. I have my lesson plans posted for at least 2 weeks ahead of time. You can see what assignment your student is working on in class and can also see the homework assignments. Parentlink will allow you to see what is in my gradebook and is updated daily. Please contact me via email at **francfm@interact.ccsd.net**

Turn This Page In

Please share and discuss the above Course Expectations with your Parents/Guardian. Return this page, properly completed and signed by all parties, on the date requested by your teacher.

COURSE TITLE: Advanced Placement Biology

TEACHER: Frank Franco

I HAVE READ AND UNDERSTAND THE ABOVE COURSE EXPECTATIONS.

Print Student Name: _____

Student Signature: _____ Date _____

Parent/Guardian Signature: _____ Date _____