

Palo Verde High School

IB Biology Course Expectations

INSTRUCTOR: Mr. Franco

***IB mission statement**

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

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 successfully complete the Core 4 component of the IB Diploma Programme. Emphasis will be placed on inquiry skills, problem solving, and multidisciplinary approaches to exploring biological concepts. General areas of study will be Molecular Biology, Cell Biology, Genetics, Evolution and Biodiversity, Ecology, and Human Physiology. 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 extensive practice in experimental design and analysis. 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 IB Biology exam.** Failure to take the exam will result in the student not receiving the weighted GPA factor of .050 (CCSD regulation 5127).

PREREQUISITES :

Enrollment in the IB program will satisfy all prerequisites.

POSSIBLE CAREERS:

Biologist	Coroner	Nurse
Zoologist	Pharmacist	Dietitian
Veterinarian	Genetic Engineer	Geneticist
Genetic Counselor	Research Scientist	Paleontologist
Pediatrician	Teacher	Dentist
Biotechnology Engineer	Doctor	Physical Therapist
Environmentalist		

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*COURSE OUTCOMES:

Demonstrate knowledge and understanding of:

1. facts, concepts and terminology
2. methodologies and techniques
3. communicating scientific information.

Apply:

1. acts, concepts and terminology
2. methodologies and techniques
3. methods of communicating scientific information.

Formulate, analyse and evaluate:

1. hypotheses, research questions and predictions
2. methodologies and techniques
3. primary and secondary data
4. scientific explanations.

Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Academic honesty

*All coursework—including work submitted for assessment—is to be authentic, based on the student's individual and original ideas with the ideas and work of others fully acknowledged. Assessment tasks that require teachers to provide guidance to students or that require students to work collaboratively must be completed in full compliance with the detailed guidelines provided by the IB for the relevant subjects.

What is academic honesty?

Academic honesty means that one's own work is authentic and not a reproduction of other people's work or ideas.

Intellectual property rights must be respected and are often protected by law (copyrights on music, patents, movies, published books). In science, you may be inspired by previous scientific discoveries or laboratory procedures. It is perfectly acceptable to be inspired by existing work but the original source must always be acknowledged.

Plagiarism and Malpractice

According to the IBO, a student is guilty of malpractice if he or she plagiarizes, works too closely together with another student (collusion), or duplicates work. Malpractice is also present in other situations. For example, if a student falsifies a CAS-record or brings unauthorized material into an exam.

Plagiarism: this is defined as the representation of the ideas or work of another person as the candidate's own

Collusion: this is defined as supporting malpractice by another candidate, as in allowing one's work to be copied or submitted for assessment by another student.

Duplication of work: this is defined as the presentation of the same work for different assessment components and/or diploma requirements

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LESSON TOPICS AND TIME SCHEDULE (SEQUENTIAL):

Practical scheme of work	40hrs
Practical activities	20
Individual investigation (internal assessment–IA)	10
Group 4 project.	10

1st Semester		
Topic 2: Molecular Biology		21hrs
2.1	Molecules to metabolism	1
2.2	Water	2
2.3	Carbohydrates and lipids	3
2.4	Proteins	1
2.5	Enzymes	3
2.6	Structure of DNA and RNA	1
2.7	DNA replication, transcription and translation	4
2.9	Photosynthesis	3
2.8	Cell respiration	3
Topic 1 – Cellular Biology		15hrs
1.1	Introduction to cells	3
1.2	Ultrastructure of cells	3
1.3	Membrane structure	2
1.4	Membrane transport	4
1.5	The origin of cells	1
1.6	Cell division	2
Topic 3 – Genetics		15hrs
3.1	Genes	1
3.2	Chromosomes	2
3.3	Meiosis	2
3.4	Inheritance	5
3.5	Genetic modification and biotechnology	5
Total Sem 1 Hours		51hrs

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2nd Semester		
Topic 5 - Evolution and biodiversity		12hrs
5.1	Evidence for evolution	3
5.2	Natural selection	3
5.3	Classification of biodiversity	3
5.4	Cladistics	3
Topic 4 - Ecology		12hrs
4.1	Species, communities and ecosystems	4
Option C : Ecology and conservation		15hrs
C1	Species and communities	5
C2	Communities and ecosystems	5
C3	Impacts of humans on ecosystems	3
C4	Conservation of biodiversity	2
4.2	Energy flow	3
4.3	Carbon cycling	2
4.4	Climate change	4
Topic 6 - Human health and physiology		20hrs
6.1	Digestion and absorption	3
6.2	The blood system	3
6.3	Defence against infectious disease	3
6.4	Gas exchange	3
6.5	Neurons and synapses	4
6.6	Hormones, homeostasis and reproduction	4
Total Sem 2 Hours		59hrs

Total Teaching Hours

150

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MAJOR TEXT:

Each student will receive a copy of Oxford University Press, *IB Biology Course Book*, 2014. 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 replacement of the book. The student will pay a portion of the total cost if the book needs repair.

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 along with one or two quizzes per unit.
- **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 every day. Homework will be given verbally, written on the board, and on the teacher website. Assignments not completed during class may become additional homework and are due the next day. IB students can expect about 80 pages of reading per week and are expected to put in at least 6 hours of study per week.
- **Printing Assignments-** Creating independence and individual responsibility is core to IB and Palo Verde philosophy, as such, I have lesson plans and assignments available on my website at least 2 weeks in advance. Students are expected to **have the appropriate labs and handouts printed by the time they are required in class**. Failure to meet these deadlines will have submitted work counted as late.
- **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 LABS**. 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

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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.

- **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.

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. Homework is turned in within the first minutes of class. **Being tardy will make your homework late for the day** and the appropriate late grade will be applied to the assignment.

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.
- 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.
- Technology - The school-wide multimedia management system, computer simulations, PC accessories, Probe ware, Gel Electrophoresis Chambers, microscopes, and the Internet will be used and/or taught to students throughout the year.

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- 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

1. 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.
2. A progress report will be received mid-way through each term.
3. 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

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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.

Late Work: Homework is **due within the first few minutes** of class. Assignments turned in late due to tardiness will count as late. Students have been instructed on how organizational skills will prevent late work from occurring and one way to evaluate this skill is through the occurrence of late work. In fairness to all students, being seconds late or looking for it in your backpack still makes the assignment late.

Make-Up Work/Late 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 school day per 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 count against make-up work (half credit max). 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.

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**

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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: IB Biology

TEACHER: Frank Franco

I HAVE READ AND UNDERSTAND THE ABOVE COURSE EXPECTATIONS.

Print Student Name: _____

Student Signature: _____ Date _____

Parent/Guardian Signature: _____ Date _____