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**Campbell, N.A. and Reece, J.B. (2008). *Biology 8<sup>th</sup> ed.* San Francisco: Benjamin Cummings.**

**To supplement the text: Pearson Baccalaureate. Biology standard level. ISBN 978-0-435994-39-6**

Course Description and Objectives:

Through studying any of the group 4 subjects, students should become aware of how scientists work and communicate with each other. While the %scientific method+may take on a variety of forms, it is the emphasis on practical approach through experimental work that distinguishes the group 4 subjects from other disciplines and characterizes each of the subjects within group 4.

1. Provide opportunities for scientific study and creativity within a global context, which will stimulate and challenge students.
2. Provide a body of knowledge, methods and techniques, which characterize science and technology.
3. Develop an ability to analyze, evaluate and synthesize scientific information.
4. Enable students to apply and use a body of knowledge, methods and techniques which characterize science and technology.
5. Engender an awareness of the need for, and the value of, effective collaboration and communication during scientific activities.
6. Develop experimental and investigative scientific skills.
7. Develop and apply the studentsqinformation technology skills in the study of science.
8. Raise awareness of the moral, ethical, social, economic and environmental implications of using science and technology.
9. Develop an appreciation of the possibilities and limitations associated with science and scientists.
10. Encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method.

ed students, and is designed to promote more high-level research and learning. IB Biology is a class designed by the (IBO).

In order to receive the IB Diploma, students have specific requirements including External Assessments, Internal Assessments, and a Group project. External Assessments consists of three (3) papers completed by the student in the form of a multiple-choice test, and two short answer tests, covering the core material, as well as two options, chosen by your instructor. Internal Assessments are student designed and implemented experiments that are completed in class and graded by the teacher as well as the IBO. The External Assessment is weighted 76% of the 1 to 7 IBO grade, and the Internal Assessment is weighted 24%. The assessment procedure will be discussed at length at the beginning of the semester. In order to get the IB Diploma, you must complete the all Internal and External Assessments, which will comprise your IB Grade on a 1 to 7 scale. The score you receive in Biology, as well as the points you accrue on assessments in your other IB classes, must total up to 24 points in order to be awarded the diploma.

### **Grading (Grade received within the school):**

|                       |     |
|-----------------------|-----|
| Formative Assessments | 25% |
| Summative Assessments | 75% |

The course grade will be broken up equally (50%) between semesters.

### **IB Grading Scale:**

|                      |     |
|----------------------|-----|
| Internal Assessments | 24% |
| Papers 1, 2 and 3    | 76% |

### **Homework and Make-up Work Policy:**

Makeup work is to be completed within 5 days. It is the student's responsibility to schedule make-up times for tests with the teacher. Long-term projects must be turned in on the previously scheduled date. If a student is absent on that day, they must turn in the project the day they return to receive full credit. For every day late thereafter, their possible points will be decreased by a letter grade. A daily synopsis of class and any handouts given out in class will be posted on Angel. Below are the following websites, where these resources can be found:

<https://forsyth.angelllearning.com/>

<http://www.ibo.org/> (International Baccalaureate Diploma Programme website)

### **Class Rules:**

1. Respect the teacher and your peers.
2. Be prepared to learn with all necessary materials needed every day.
3. Follow all lab safety rules during lab activities.
5. Be responsible and accountable for your actions.

nder (1.5 inch), writing utensils, and a jump drive.

over all six Core topics below as well as the Option topics  
for extensional learning during the course of the entire year.

### **Topic One: Statistical Analysis**

#### **Topic Two: Cells**

Cell theory, prokaryotic cells, eukaryotic cells, membranes, cell division

#### **Topic Three: The chemistry of life**

Chemical elements and water, Carbohydrates, lipids and proteins, DNA structure, DNA Replication, Transcription and Translation, Enzymes, Cell respiration, Photosynthesis

#### **Topic Four: Genetics**

Chromosomes, genes, alleles and mutations, Meiosis, Theoretical genetics, Genetic engineering and biotechnology

#### **Topic Five: Ecology and evolution**

Communities and ecosystems, the greenhouse effect, populations, evolution, classification

#### **Topic Six: Human health and physiology**

Digestion, The transport system, Defense against infectious disease, Gas exchange, Nerves, hormones and homeostasis, Reproduction

#### **Option D: Evolution**

Origin of life on earth, species and speciation, human evolution

#### **Option G: Ecology**

Community ecology, ecosystems and biomes, Impacts of humans on ecosystems

## **Grading explanations**

**Summative grades** are assignments/assessments such as unit tests, projects, essays, research papers, and presentations which may integrate multiple standards. These grades reflect student mastery of standards after the learning activity is completed and count as 75% of each semester average.

**Formative grades** are assignments such as homework, class work, quizzes, drafts or portions of essays, projects, research papers, and presentations. They provide practice while learning. These assignments, observations, and conversations are used to inform both the teacher and student about the learning process and lead to potential success on summative assessments. They count as 25% of each semester average.

The **End-of-Course Test (EOCT)** is a cumulative standardized assessment which counts as 20% of the overall course average. It is given upon completion of a specific course. EOCT courses are determined by state graduation requirements.

**Work Habits** are behaviors that have the potential to increase academic achievement, promote lifelong learning, and foster personal accountability.

**Responsibility (R)**  
The student adapts to classroom practices.

1. Requires frequent redirection; strays off-task; disrupts learning environment; fails to follow class procedures.
2. **Is a self-starter; remains on-task; asks questions for clarifications when needed; applies strategies for meeting learning goals; follows class procedures.**
3. Displays independent initiative; maximizes opportunities; solves problems.

### **Participation (PA)**

The student pursues learning through active involvement.

1. Disengages from the learning environment; responds only to teacher prompts.
2. **Engages in activities and discussions.**
3. Leads others to participate; explores new class ideas and approaches.

### **Assignment Completion (AC)**

The student completes work by the designated time/date and according to directions.

1. Fails to complete assignments or submit work; struggles to follow directions.
2. **Produces completed work on a consistent basis by the designated time/date; follows directions.**
3. Demonstrates new applications and examples of standard; exceeds assignment expectations; extends personal learning.

### **Interpersonal Skills (IS)**

The student interacts with others to create a positive learning environment.

1. Lacks flexibility when working with peers; isolates self.
2. **Works well with peers; listens and speaks respectfully; questions ideas rather than the person.**
3. Adjusts to a variety of classroom roles; mediates; influences others to learn.



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