Basic Principles of Biology - from the nature of science to how science is applied to understanding the physical, chemical, and interactive aspects of living systems. For non-biology majors.

**Student Learning Outcomes**
1. Define “Science” & describe the scientific method of inquiry.
2. Explain the physical properties of matter and why they are important to life
3. Explain the importance of Enzymes and how they function
4. Explain the nature of respiration and photosynthesis
5. Identify the components of cells and their function...
6. Explain the mechanisms by which animals perceive the world and control their bodies
7. Describe the evolution of complex organisms
8. Describe the nature of Mendelian and modern genetics.
9. Describe difference and similarities of freshwater and marine ecosystems
10. Describe the major components of Ecosystems
11. Describe metazoan development from a fertilized egg to an adult

**Textbooks**

**Grading-** The grade for the lecture portion of this course will be the average of the best three of the four exams. A missed exam can not be made up except for serious and documented reasons (advance notice is usually required) and will be one of the dropped exams.

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<th>Grade</th>
<th>Points</th>
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PRINCIPLES OF MODERN BIOLOGY  Lectures         SPRING 08     DR. LO PINTO

Text:  Biology - A Guide to the Natural World, by David Krogh

1  Unit I  Science and the Scientific Method
2  Unit I  Physical Properties of Matter Important to Life
3  Unit I  Enzymes- the key to life

EXAM I

5  Unit II  Respiration
6  Unit II  Photosynthesis
7  Unit I  Cells – the Units of Life

EXAM II

9  Unit VI  Nervous Systems – Perception and Self Control
10 Unit IV  Evolution of Plant and Animal Complexity- Embryology and Evolution
11 Unit III  How Genes Control Heredity and Metabolism
12 Unit VII  Environmental Science- understanding terrestrial and fresh water ecosystems
13 Unit VII  Environmental Science- understanding marine ecosystems

Exam III

15  FINAL EXAM (Exam IV) – CUMULITATIVE (= entire semester is covered)

RULES, REGULATIONS, GRADES

Attendance and Lateness:  Students are expected to attend all classes and to be on time.

Makeup and Missed Work Policy  There are no makeup exams.

Academic Integrity Policy:  Students are obliged to review and abide by this FDU academic policy published at http://www.fdu.edu/studentlife/metro/academicintegrity.html

Grading policies:
Lecture Section: There will be four equally weighted lecture exams. The lowest grade will be dropped
Lab Section: There will be two equally weighted lab exams. Unless otherwise specified each lecture or lab exam will cover the course material covered since the previous exam.
Scheduling of lecture/lab/ and field experiences may vary from that outlined as conditions dictate.
Extra-credit or substitute-credit assignments are never allowed. Primary responsibility is for knowing the course material addressed in lecture and lab and/or in assignments that may be given.

Other rules or regulations:

Electronic Equipment:
1. During instruction: The use of cell phones and/or electronic or other equipment capable of recording and/or transmitting lectures or any instructional modality is prohibited unless written permission is obtained from the instructor.

2. When exams are in use: Cell phones and/or any electronic device capable of displaying, recording, or transmitting information must not be used or even accessed for any purpose when exams are also in use. The use or display of such equipment may result in its confiscation and a failing grade for the course. Carefully adhere to this rule.

INSTRUCTIONS FOR EXAMS
- Students must bring a #2 pencils to take exams. They will not be supplied.
- Mark and erase answer sheet properly, or request a new answer sheet and re-mark the answers if erasures are inadequate. THIS RESPONSIBILITY IS the students ALONE, SO EXERCISE BEST JUDGEMENT. The instructor will not correct a students mistakes due to inadequate erasure.
- All question and answer sheets must be returned to the hands of the instructor who will then record their return. Failure to return both question and answer sheets will result in failing the course. Cheating also results in failure

Teaching Methodologies/Activities (Mode of Instruction):
Students will learn from lectures designed to appeal to both visual and audio learners. It is also strongly recommended that students read about topics covered in lecture in the recommended text or in another recently published introductory biology text. Any other readings that may be assigned will be made available on reserve in the library. Exams cover the lecture material and they will test student’s knowledge of that material. Learning and understanding the course material well is the best way to earn a good grade.

COURSE OUTLINE: Provided above

Class and Out of Class Weekly Assignments: It is essential that you take excellent notes. Gaps can be filled in by talking with other students. If additional explanation is needed please consult the professor. Study lecture material weekly and prior to the next class meeting both as preparation for exams, and so that you can request additional explanations if needed. You are not likely to do well if all studying and understanding the material is left to days and hours before the exam. You are likely to do well if you study and understand the material immediately after it is presented, and then study and review again before each exam.

presented each week is essential to doing well in this course.

Field and Laboratory
Some aspects of the environmental components of this class will be learned through lecture/and hands on experience. Allowing adequate time to complete field work requires setting aside a day during a weekend when weather is most suitable. The dates of field trips will be announced. A week end day’s field trip will substitute for a lecture and lab session scheduled later on. Written materials will be provided to aid learning and to ease note taking in the field. SONS POLICY REQUIRES THAT STUDENTS ARRANGE THEIR OWN TRANSPORATION AND ARRIVE ON TIME AT FIELD SITES.