Principles of Modern Biology - Lecture Syllabus
School of Natural Sciences
Fairleigh Dickinson University
SPRING 2008

BIOL1001.21 Lecture, room DH5529, Tuesday 5:25-7:05 pm
BIOL1011.21 Lab, room DH5529, Tuesday 7:20-9 pm

Richard W. Lo Pinto, Ph.D.
lopintor@fdu.edu
201-692-2297

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 composition of atoms and bonding, and the importance of inorganic and organic molecules to life.
3. Identify a cell, cell composition & comparisons of Prokaryotic & Eukaryotic cells.
4. Explain the evolution of complex organisms
6. Describe the structure & function of DNA & RNA and their role in protein synthesis.
7. Explain Mendelian Principles of Heredity and how they relate to DNA/RNA
9. Describe the difference between monocot and dicot plants.
10. Describe similarities and differences of plants and animals
11. Describe the nature of Ecosystems, participants & structure of ecosystems & food webs.

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.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
<td>93 – 100%</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
<td>90 - 92%</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
<td>87 – 89%</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>83 - 86%</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
<td>80 - 82%</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
<td>77 - 79%</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td>73 - 76%</td>
</tr>
<tr>
<td>C-</td>
<td>1.67</td>
<td>70 - 72%</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td>60 - 69%</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>&lt; 60%</td>
</tr>
</tbody>
</table>
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 The Chemistry of Life: Inorganic & Organic, including Enzymes

EXAM I

4. Unit II Respiration
5. Unit II Photosynthesis
6. Unit I Cell and Tissues of Animals and Plants; Plasma Membrane

EXAM II

7. Unit VI Regulatory Mechanisms in Animals-Endocrine & Nervous Systems
8. Unit V Regulatory Mechanisms in Plants- Plant Hormones
9. Unit III How Genes Control Heredity: Mendelian & Modern Genetics
10. Unit III How Genes Regulate Metabolism
11. Unit 4&7 Evolution and Ecology-understanding diversity and adaptation

Exam III

12. FINAL EXAM- CUMULITATIVE

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.

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
Weekly Assignments: Study lecture material prior to the next class meeting as preparation for exams, and so that you can request additional explanations if needed.