Title of Course: General Biology II Laboratory
Catalog Number, Section, Term: BIOL 11254 sec. 22 &23 Spring 2012
Prerequisites: None
Coreqs.: SOS 1213 (Exams)
Biol 1252.21 (Gen Bio II Lecture)
Class Room: DH 5506
Meeting Times and Dates: Sec. 22, Tues 2:15-4:55;  Sec. 23 Th 11:25-2:05
Instructor: Richard W. Lo Pinto, Ph.D.
Office Location: DH 4412
Office Hours: T 11:15-2:15 by appointment
Telephone with voice mail: 201 692-2297
FDU Email Address: richard_lo pinto@fdu.edu

Course description: Laboratory study of modern biological principles and processes


RULES, REGULATIONS, GRADES

Attendance and Lateness: Students are expected to attend all classes and to be on time. Absence from more than 3 classes coincident with an average below 70% is “Attendance Default”, causing automatic failure. Attendance is taken at the beginning of class, so tardiness will be considered an absence.

Makeup and Missed Work Policy There are no makeup exams and no opportunity to make up missed work.

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 for the laboratory portion of the course:
There will be a total of two equally weighted exams upon which the lab course grade is based. Grades are determined by averaging the exams and adding curve if applicable

Extra-credit or substitute-credit assignments are never allowed. Primary responsibility is for knowing the course material addressed in lecture and/or in assignments that may be given.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</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>
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 present: Cell phones and/or any electronic or other device capable of displaying, recording, transmitting or receiving information must not be readily accessible or on one’s person when exams are present. Any access to electronic equipment under these conditions will result in a minimal loss of up to 50 points from an exam grade and/or a failing grade in the course. You may ACCESS ELECTRONIC EQUIPMENT ONLY AFTER LEAVING THE ROOM.

-For Exams- A person not present for an hourly exam at the time it begins will not be permitted to take the exam. If a student is late for serious reasons the instructor may, in an exceptional case, consider allowing the exam to be taken but the time available cannot be extended. Permission can never be given to take an exam after someone has already finished and left the room.

INSTRUCTIONS FOR EXAMS
- Students must bring a # 2 pencils to take exams in case scantron exam sheets are used. They will not be supplied.
- For Scantron exams, be sure to mark and erase answer sheet properly, or request a new answer sheet and re-mark the answers if erasures are inadequate. THIS RESPONSIBILITY IS YOURS ALONE, SO EXERCISE YOUR BEST JUDGEMENT. The instructor will not correct your 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

Course Objectives: These reflect the course content, learning outcomes, and the course description.

Competencies: Students are expected to become well versed in the laboratory techniques used and with the process of scientific investigation

Outcomes: Students will possess observational and technical skills (=program outcome #5; and possess major field knowledge in biology (= program outcome # 7)

Goals: To provide knowledge and understanding biological laboratory techniques.

Teaching Methodologies/Activities (Mode of Instruction):
Students will conduct laboratory exercises that use the scientific method. Learning and understanding the course material well is the best way to earn a good grade.

COURSE OUTLINE: Appended

Weekly Assignments: Study lab material prior to the next class meeting

Test Dates: Shown on the lab schedule provided below.

Intro Bio II Lab  BIOL 1254.22 & 23 Lab: General Biology II Lab Schedule Spring 2012 Dr. Lo Pinto

<table>
<thead>
<tr>
<th>Spring 2012: Week of</th>
<th>Chapter No.</th>
<th>Topic in “Perry” Lab Book</th>
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</thead>
<tbody>
<tr>
<td>1. Jan. 23</td>
<td>Introduction; Laboratory Safety</td>
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<tr>
<td>2. Jan. 30</td>
<td>1 The Scientific Method- Section- Do Sections 1.1 (but omit 1.1 III-breath holding)</td>
<td></td>
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<tr>
<td>3. Feb. 6</td>
<td>2 Measurement- Do Sections 2.1 A-D</td>
<td></td>
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<tr>
<td>4. Feb. 13</td>
<td>3 Microscopy</td>
<td></td>
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<tr>
<td>5. Feb. 20</td>
<td>5 Macromolecules and you: food &amp; Diet analysis  Do Sec. 5.1 (A1-2, B1-2, C 1)</td>
<td></td>
</tr>
<tr>
<td>6. Feb. 27</td>
<td>7 Diffusion, Osmosis, &amp; Biological Membranes -Do Sections 7.2-7.4 (7.3- omit using sulfate solution)</td>
<td></td>
</tr>
<tr>
<td>7. March 5</td>
<td>EXAM EXAM</td>
<td></td>
</tr>
<tr>
<td>8. March 19</td>
<td>8 Enzymes: catalysts of Life  Do Sec 8.2-8.5</td>
<td></td>
</tr>
<tr>
<td>10. April 2</td>
<td>11,12 Mitosis, Cytokinesis, Meiosis 11.2 A-C, 11.3 A&amp;B, 11.5; 12.1 A-D</td>
<td></td>
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<tr>
<td>12. April 16</td>
<td>14 Nucleic Acids: 14. 2 A &amp; Carolina Recomb. DNA Simulation kit; &amp; DNA extraction</td>
<td></td>
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<tr>
<td>13 April 23</td>
<td>17 Evidence of Evolution: Selection of models for 17.1, 17.2, 17.3</td>
<td></td>
</tr>
<tr>
<td>14. April 30</td>
<td>EXAM EXAM</td>
<td></td>
</tr>
</tbody>
</table>

Changes to this schedule are possible, usually based on the availability of materials.
**LABORATORY: ACADEMIC AND SAFETY REQUIREMENT**

**L**-LAB MANUAL: Perry JW, Morton D, Perry JB. 2007. Laboratory Manual for General Biology

**R**-READ LAB EXERCISE PRIOR TO ATTENDING EACH LAB CLASS

**A**-LAB COAT, FOOT PROTECTING SHOES (no sandals or open toed shoes), DISSECTING KIT (only for Bio I)

**D**-SAFETY GLASSES WHENEVER CHEMICALS OR SHARP INSTRUMENTS ARE USED

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**LABORATORY POLICIES AND PROCEDURES**

**P**-PROPER LAB ATTIRE:

To increase laboratory safety SONS has instituted the following policy on lab attire. It will be strictly enforced so that anyone failing to comply with these policies will be asked to leave.

-“No student will be permitted into laboratories wearing shorts, halter tops, open toed sandals, undershirts, tank tops or any other inappropriate attire”.

-“All students are to purchase a long laboratory coat which can be used for any Biology or Chemistry class which requires a lab--non-majors or majors”.

-In addition all students must wear protective safety glasses at all times when in the laboratory except if otherwise specified or during “lab lecture” as long as no laboratory activities are in progress and if sharp instruments are not being used. Safety glasses will be provided for your use. Please return them at the end of the lab session. If you observe any activity that may present danger please report it to the instructor immediately.

-Containers with food or drink must not be exposed or open in the lab and must not be on laboratory working surfaces.

**T**-TARDINESS:

An aspect of lab work that is important both for learning and for safety is the instruction given at the beginning of each class. It is essential therefore that all students be present exactly at the time class is scheduled to begin. Therefore anyone arriving late will usually be asked to leave and his/her absence for that day will be noted. If for any serious reason you have to be late for class the instructor should be notified in advance. A message may be left at 201 692 2297 or in an e-mail to: lopintor@fdu.edu.

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ADMISSION TICKET FOR EACH LABORATORY (This is a “no credit” requirement):

Unless otherwise instructed, for each laboratory activity (each section specified above) type and submit the following in the format (shown in bold type) provided below. An example for completing items 1-3 (seen below) is shown in italics.

DO THE FOLLOWING FOR EXERCISES THAT ARE \textit{EXPERIMENTS} (i.e. having an experimental and control group)

\begin{itemize}
\item \textbf{NAME} ____________________________ \textbf{DATE} (of lab session) __________________
\item \textbf{Exercise} _____, \textbf{Section} ___ \textbf{( Example: Exercise 1, sec. A1c)}
\item \textbf{1) Purpose of exercise:} \textit{Example:} determine if “Haveahair” cream grows hair on palms.
\item \textbf{2) Mechanism (or experiment) by which this purpose will be achieved.} \textit{Example:}
\begin{itemize}
\item \textbf{Experimental group:} Apply “Haveahair” cream to 5 palms
\item \textbf{Control group:} Apply plain cream (lacking havahair additive) to 5 palms
\end{itemize}
\item \textbf{3) Theory:} (Anticipate the results of the experiment and develop an explanation for each possible result). \textit{Example:}
\begin{itemize}
\item 1) Hair grows on palms treated with “Haveahair” but not on control gp. \textit{Theory:} havahair grows hair on palms
\item 2) Hair does not on palms treated with “Have-a-hair” cream and not on control gp. \textit{Theory:} havahair doesn’t grow hair on palms
\item 3) Other possible results and Theory (\textit{explanation of results}) for each: ________
\end{itemize}
\end{itemize}

DO THE FOLLOWING FOR EXERCISES THAT SIMPLY \textit{DEMONSTRATE} THE USE OF A TEST

\begin{itemize}
\item \textbf{NAME} ____________________________ \textbf{DATE} (of lab session) ________________
\item \textbf{Exercise} _____, \textbf{Section} ___ \textbf{( Example: Exercise 1, sec. A1c)}
\item \textbf{1) Purpose.} \textit{Use the test protocol provided to determine if milk is toxic}
\item \textbf{2) Mechanism:} \textit{Solution X} when added to toxic milk turns milk purple. Non-toxic milk does not become purple
\item \textbf{3) Possible results:} \textit{-Solution X} when added to milk changed its color to purple – therefore the milk is toxic.
\textit{-Solution X} when added to milk did not change color to purple – therefore the milk is not toxic.
\end{itemize}