

## BIOL 1050- General Biology I Lab (Sp. 2010)

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**Office Hours-** Monday and Tuesday 9-11 or by appt.

**Texts** Lab Manual (with Symbiosis label on it) at CSUS bookstore. Online lab manual available at <http://www.silencinggenomes.org/>

**Lab Schedule** We will do two exercises each week.

Plain text below refers to the Silencing Genomes Labs. Italics refer to Symbiosis Lab Manual:

| <b>Date</b> | <b>Topic</b>  |
|-------------|---|
| Feb 16, 17  | We will meet to take roll and go over important preliminary information. Be sure you attend class if you want to keep your seat! Purchase Lab Manual before Lab starts next week!   |
| Feb 23, 24  | Week 1 Introduction to Worm Biology<br><i>Use of Dissecting Microscope, Scientific Investigation</i>  |
| Mar 2, 3    | Week 2 Bioinformatics<br><i>Microscopes and Cells</i>   |
| Mar 9, 10   | Week 3 Pipetting, DNA Isolation, PCR ,<br><i>Osmosis</i>  |
| Mar 16, 17  | Week 4 Agarose Gel Electrophoresis, Ligation<br><i>Enzymes</i> <b>Journal Due for weeks 1,2,3</b>   |
| Mar 23, 24  | Week 5 Bacterial Transformation,<br><i>Photosynthesis</i>   |
| Mar 30, 31  | <b>No Class: Furlough Day and Holiday</b>   |
| Apr 6, 7    | <b>No Class: Spring Break</b>   |
| Apr 13, 14  | Week 6 Verification, Single Colony PCR<br><i>Respiration</i>  |
| Apr 20, 21  | Week 7 Agarose Gel Electrophoresis<br><i>Mitosis, Meiosis, How do they Differ?</i> <b>Journal Due for Weeks 4,5,6</b>   |
| Apr 27, 28  | Week 8 Plasmid DNA Isolation<br><i>Mendelian genetics</i>   |
| May 5, 6    | Week 9 Rapid Colony Transformation <i>Evolution (dress for outdoors)</i>  |
| May 11, 12  | Week 10 Select worm larvae<br><i>Population Genetics: Hardy -Weinberg</i> <b>Journal Due for Weeks 7,8,9</b>  |
| May18, 19   | Week 11 Observe RNAi phenotypes <b>Complete worksheet on results from Worm Lab and today's lab activities for 10 points.</b><br><i>Organisms in the Environment (not yet available in Symbiosis Manual, we will give you a handout, or make it available online) dress for outdoors</i> |
| May 25, 26  | <b>Lab Practical 100 points</b>   |

### **Grading**

*Quizzes./Exams* Each week we will have a 10 point quiz starting March 2-3. Each quiz will cover the previous week's lab exercises. You will be tested on your ability to achieve the course objectives. Your lowest quiz score will be dropped.

*Journals* (lab write-ups) Turn these in every 3 weeks. Journals are due at the **beginning** of class.

Format:

1. Identify and describe the lab objectives (theory) covered by the experiments. (9 pts)
2. Record a valid, **complete sentence** hypothesis you tested. Make sure your actual hypothesis is tested by the experiment. The test should very clearly address the hypothesis (or vice versa) (9 pts)
3. Record your actual results. (3 pt)
4. Were your results different from your expectations? Why? (5 pts)
5. What are some major (not minor) sources of error in your technique, the experimental design, your skill at data analysis, etc and what would you change next time? (4 pts)

May 25 or 26- 2:30 p.m. - Final Lab Exam (practical) –100 pts

**Points possible:**

|                            |                   |
|----------------------------|-------------------|
| Quizzes                    | - 90 pts.         |
| Journals (3 @ 30 pts each) | - 90 pts.         |
| Week 11 worksheet          | - 10 pts.         |
| Perfect Attendance         | - 10 pts.         |
| <u>Lab Final Exam</u>      | <u>- 100 pts.</u> |
| Total                      | - 300 pts.        |

**Important Dates**

|                   |                                     |
|-------------------|-------------------------------------|
| Monday, Mar. 15   | - Last day to drop a course         |
| Tuesday Mar. 30   | - No Lab, Furlough Day              |
| Wednesday Mar. 31 | - No classes, Cesar Chavez Day      |
| Apr. 5 - Apr. 9   | - No classes, Spring Break          |
| Friday May 14     | - No afternoon classes, Warrior Day |
| Monday May 24     | - Last Day of Classes               |

**Make-up:**

You will not be able to make missed labs. Keep your schedule clear for the final lab exam (note the date). If something comes up unexpectedly on the day of the exam, please call me. If you a leave a message, leave a phone number and I will contact you. Don't 'let it ride' and plan on discussing it with me later. If I don't hear from you **promptly**, you get a 0.

**Lab Reports/Write-ups:**

Lab Reports/Write-ups are due at the beginning of the lab. See the lab schedule for the due dates. Late lab reports are penalized 20% per day. **Lab reports are not group activities.** Do your own work and don't copy the answers from someone else's report. In other words, turn in your own, original work, even if you did work as a pair. Lab reports are valuable study guides.

**Student Conduct:**

Most labs will run the full three hours. For credit attendance is required. Do not enroll in this class if you have conflicts or other commitments during your lab period. Be on time for class. During the first few minutes of each class period we will discuss the day's activities. Students are awarded **10 points** for attending all labs **from start to finish**. Do not leave the classroom in the middle of a discussion. Do not use cell phones, Ipods, or other electronic devices during class.