

**THE COLLEGE OF STATEN ISLAND  
DEPARTMENT OF BIOLOGY**

*Rebecca Chamberlin*

**Biology 107 – Principles of Biology I Laboratory**

**FALL 2011**

**Required Text:** *Laboratory Manual for Biology* 9<sup>th</sup> or 10<sup>th</sup> Edition, by Sylvia S. Mader. See attached sheet for important textbook information.

Week	Topic	Lab Manual Activity	9 <sup>th</sup> Edition pages	10 <sup>th</sup> Edition pages
1	Metric Measurement and Microscopy Prepared slides Onions, Euglena	2	9-28	9-26
2	Cell Structure and Function Models and prepared slides Elodea Wet mounts	4, part	43-48	41-46
3	Chemical Composition of Cells Tests for protein, starch, sugars, and lipids	3	29-41	27-40
4	Diffusion, Osmosis, and Dialysis; pH Dialysis Tubing Tonicity in Potato, Elodea and Red Blood Cells	4, part	49-58	47-56
5	Enzymes Catalase Activity	5	59-66	57-64
6	Cellular Metabolism I: Respiration and Fermentation	7	77-82	75-82
7	Cellular Metabolism II: Photosynthesis Lab Procedure follows handout	6	67-76 handout	65-74 handout
8	Animal Organization Prepared slides	25	341-356	357-372
9	Cardiovascular System Sheep Heart Dissection Models and prepared slides Stethoscopes	27, part	383-388 349, 351, 410	397-402 365, 367, 412, 413
10	Urinary System Sheep Kidney Dissection & Urinalysis Models and prepared slides	29, part	372-373 404-409	388-389 420-426
11	Nervous System Sheep Brain Dissection Models and prepared slides Rubber Hammers	30, part	413-419	429-435
12	Sense Organs Cow Eye Dissection Model of Human Skin Tuning Forks	30, part	420-430	436-448
13	Reproductive System Models and prepared slides	27, part	371-381	387-395
14	<b>FINAL PRACTICAL EXAM – Covers entire semester’s work.</b>			

Any student absent from more than 2 laboratory sessions is liable to receive a failing grade. For each lab, students are also expected to study the relevant material in the lecture text.

*Laboratory Manual for Biology* – 9<sup>th</sup> Edition **OR** *Laboratory Manual for Biology* – 10<sup>th</sup> Edition  
By Sylvia Mader  
ISBN 978-0-07-298955-7  
ISBN 0-07-298955-6  
By Sylvia Mader  
ISBN 978-0-07-722617-6  
10<sup>th</sup> Edition sold at CSI Bookstore, ISBN 9780077226176, Price Used \$84.15, New \$112.20

## **Textbook Savings**

The University Office of Computing and Information Services has compiled this fact sheet to help students save money. Students are encouraged to research other options.

## **Campus Options**

Library: Your campus library has a copy of the textbook you need on reserve (must remain in library).

## **Purchase Used Textbooks**

Used textbooks are cheaper than new textbooks. You can purchase used textbooks from your campus bookstore or online.

Bigwords.com  
Bookbyte.com  
Buyusedtextbooks.com  
Campusbooks.com  
CollegeSwapShop.com  
Ebay.com  
Half.com  
Halfvalue.com  
Textbooks.com  
TextbookX.com  
ValoreBooks.com

## **Comparison Shop**

Use ISBN numbers to comparison shop among the major retail sites or use sites that compare prices from multiple sources.

Abebooks.com  
Addall.com  
Affordabook.com  
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Allbookstores.com  
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Shipping@<http://www.amazon.com/gp/student/signup/info?tag=gmgamzn-20>)  
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campusBooks4Less.com  
Collegebooksnow.com  
DirectTextBook.com  
Half.com  
Textbook.pricecomparison.com

## **Student Learning Objectives**

1. Students will be able to describe the components of the scientific method and implement these procedures in a number of laboratory exercises.
2. Students will be able to draw conclusions by interpreting experimental data. Students will explain why experiments did or did not work as predicted.
3. Students will be able to use the light microscope and make accurate measurements using other laboratory equipment. Students will be required to convert units within the metric system.
4. Students will be able to explain the concepts involved in the experiments performed on such topics as diffusion, enzyme structure and function, chromatography and plant pigments, and gas production and fermentation.
5. Students will be able to identify and explain the importance of the pathways in a number of different organs such as blood flow through the heart, light through the eye, and sound through the ear.

## **Assessment**

Students will be evaluated by their lab quizzes, assignments, department (behavior and engagement) in the laboratory (2/3 of course grade), and the comprehensive final practical exam (1/3 of grade). Student performance on the final exam will be analyzed. These data will be used to improve the instruction in the course to better meet the stated learning objectives.

## **Students with Disabilities**

Any student with a documented disability may be eligible for reasonable accommodations. To determine eligibility and to receive related services, students should contact the Office of Disability Services, which is located on the first floor of the Center for the Arts (1P-101). Students should also communicate with their instructor as soon as possible regarding their eligibility for accommodations in a course.

## **Academic Honesty Statement**

Each student is responsible for being aware of what constitutes cheating and plagiarism and for avoiding both.