

# Welcome to Biology 101!

## Philosophy

Lewis Thomas said “*Man is embedded in nature. The biologic science of recent years has been making this a more urgent fact of life. The new, hard problem will be to cope with the dawning, intensifying realization of just how interlocked we are.*” Biology is part of all of our lives: as humans and as citizens and voters. Many of the issues we deal with each day, such as health, genetic counseling, energy alternatives, and land use, deal with biology. In this course you will learn basic principles of biology and to objectively apply them to your decisions on health and medicine, nutrition, and the environment. In addition to learning how science is done, the lab requirement is designed to help you learn to collect data and apply that information to problem solving.

## Goals

After completing this course, you will be able to:

1. Demonstrate an understanding of the scientific method and the ability to use appropriate models to solve problems.
2. Apply the knowledge of biological science to distinguish between observations, inferences, relationships, and testimonials under investigation.
3. Demonstrate the ability to use scientific knowledge to assess personal and environmental health.
4. Use the scientific knowledge and skills necessary for active citizenship.

## Attendance

Regular attendance is expected at every meeting. Role will be taken during each class meeting. When students must be absent because of illness or emergencies they should contact the instructor in advance. A student may be dropped for missing six lecture class meetings or two labs. Responsibility for making up work missed because of absence rests with the student.

Papers are due on the assigned dates, late papers will not be accepted. All tests and quizzes must be taken on the designated days, make-ups will not be given.

## Requirements

All assignments, two midterms, and one final examination must be taken for a passing grade. *No make-up exams will be given.* All laboratory study guides and post tests must be completed to earn a passing grade; laboratory will account for 40% of the grade.

GRADING	A	≥ 88%
	B	75-87%
	C	60-74%
	D	45-59%
	F	≤ 44%

Excellent attendance and class participation will be taken into consideration during grading.

*Academic honesty.* Plagiarized lab reports and papers will receive a score of zero. Refer to the Student Handbook.

## The Grade of W

You may wish to withdraw from this class. If you withdraw prior to 2-16-10 nothing will appear on your record. If you withdraw between 2-16-10 and 4-29-10, a *W* will appear on your transcript. You will receive a *W* for exceeding six absences prior to 4-29-10.

*Anyone exceeding six absences after 4-29-10 will get a final grade of F.*

## Textbooks - Required

Minkoff, E. C. and P. J. Baker. *Biology Today*, 3<sup>rd</sup> ed. New York: Garland Science, 2004.

Case, C. L. *Your Biological World*. Skyline College.

**Study Aids.** Study questions for each topic in the Lecture Schedule can be found at the **BIOL 101 web site**: <<http://skylinecollege.edu/case/>> These questions will help you study for tests.



## Office Hours

Please contact the instructor an any time with questions concerning the course, an assignment, an upcoming quiz, etc.



Office 7214

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## LECTURE SCHEDULE

**Go to [skylinecollege.edu/case](http://skylinecollege.edu/case) for materials. Be sure to download the wordlist for each topic, read the study aids/hints, and take the *week's quiz*.**

Date	Topic	Reading*
Week 1	Introduction	Chapter 1, Fig. 18.8
Week 2	Biodiversity	Chapter 6, p. 642
Week 3	Natural Selection	Chapters 5
	Quiz	
Week 4	Biomes & Ecosystems	Chapter 18; pp. 391-392
Week 5	Populations	pp. 382-395
To be announced	<b>TEST</b>	
Week 6-7	Energy	Chapter 10; pp. 368-372
Week 8	More energy	
	Quiz	
Week 9	Air: Gas exchange	p. 345; 503-506; 697-710
Week 10	Homeostasis: Water	pp. 686-687, 379-381 pp. 506-508; 686-687
To be announced	<b>TEST</b>	
Week 11	Immunology	Chapter 15 & 16
Week 12	Emerging Infectious Diseases	Chapter 17
	Quiz	
Week 13	Molecular Genetics & Biotechnology	Chapter 12; pp. 42-44
Week 14-15	Inheritance	
May 24	<b>FINAL EXAMINATION</b>	8:10-10:40



## LABORATORY SCHEDULE

KEEP THIS SCHEDULE IN A BINDER WITH YOUR LAB. MANUAL.<sup>1</sup> Read the assigned lab. exercise prior to coming to class. Lab. exercises are due by the **Friday** following assignment of each exercise. Please note the due dates. One point per day late will be deducted.

Date assigned	Experiment Title <sup>1</sup>	Date due	Study guide score	Post test score
<b>1-20</b>	<b>Self-guiding field trip<sup>2</sup></b>	<b>4-30</b>		
1-26	Experimenting with the Scientific Method	2-5		
2-2	Metrics, Microscopes, & Cells	2-12		
2-16	Ecological Adaptations of Tracheophytes	2-26		
2-23	Plant Communities, field trip <sup>3,4</sup>	3-5		
3-2	Nutrition	3-12		
3-16	Photosynthesis and Respiration	3-26		
3-23	Water Pollution <sup>5</sup>	4-2		
3-30	Sewage Treatment Plant <sup>5, 6</sup>	4-16		
4-13	Insect Behavior and Insecticides <sup>5</sup>	4-23		
4-20	Controlling Infections <sup>5</sup>	4-30		
4-27	Effects of Drugs on the Frog's Heart	5-7		
5-4	Genetics <sup>5</sup>	5-14		
5-11	Animal Fertilization	5-21		
<b>1-20</b>	<b>Self-guiding field trip<sup>3</sup></b>	<b>4-30</b>		



beanie warmer

<sup>1</sup> Case, C. L. Your Biological World: Laboratory Manual.

<sup>2</sup> This field trip (Oakland Museum, San Francisco Zoo, Steinhart Aquarium) is self-guiding. No CD ROM or post test. 50 points. Additional information is in your lab manual. Writing guidelines are on the BIOL 101 web site.

<sup>3</sup> Grade Option Activity for this week is the Berlese Funnel.

<sup>4</sup> Field trips will be scheduled at least twice during the week to give you maximum opportunity to attend on one of the dates.

## Open Laboratory

Each week one laboratory experiment will be assigned. The experiments are to be done in room 7238. Each laboratory experiment is designed to take about 2.5 hours. Read the material in your lab. manual before coming to class so that you can work efficiently. You may work as much or as little in the laboratory as you require to complete each assignment.

An introductory slide show must be viewed before beginning the experiment. The week's slide show will be shown by the lab instructor, Shari Bookstaff, T@2:10, Th@9:40 and F@11:10. If you begin the lab at a different time, you can watch the slide show (CD ROM) on your own on any of the computers in lab.

### Recommended laboratory supplies

- Binder to hold your lab. manual
- Colored pencils

### Procedure

1. Read the Study Guide in your lab manual before coming to lab.
2. Check in at the door, room **7238**, during the **Open Laboratory**. Your hours will be recorded by a time clock.
3. Watch the slide show attentively before doing the lab. The slide show will be presented at the beginning of each Open Laboratory session and is available on all laboratory computers.
4. Perform the experiments and record your data.
5. When you have completed the study guide, turn it in and take a post-test.  
**Post-tests must be taken online.** Login to your WebAccess account (<http://smccd.mrooms.net>) and go to Biology 101. Each post-test will be available for three weeks. You may take each post-test a maximum of three times. Your highest grade will be counted.
6. Have your lab Study Guide stamped and turn it in after completion.
7. Study guides are worth 15 points each. The Grade Option Activities (GOA), which are available with each lab, are worth 10 points each. Don't forget to complete your GOAs during field trip weeks.
8. Study guides and GOAs are *due the Friday* following each scheduled lab. **One point per day will be deducted for late labs.**
9. If you miss a lab. and you are unable to make it up, you may still watch the slideshow, complete the Study Guide and earn a maximum of 10 points for the Study Guide and five points for the GOA. All **unstamped labs** will be graded on this scale.

### Open Lab hours:

Monday \_\_\_\_\_  
Tuesday \_\_\_\_\_  
Wednesday \_\_\_\_\_  
Thursday \_\_\_\_\_  
Friday \_\_\_\_\_

