

**COLLEGE OF ARTS AND SCIENCES  
GOVERNORS STATE UNIVERSITY  
DIVISION OF SCIENCE**

INDEX NUMBER: **BIOL 307**  
COURSE TITLE: **Biological Science Foundations Laboratory**  
IAI LI 900L: **General Education Biology**  
PROFESSOR: **Pamela Guimond, F1643 (708) 534-4546**  
**E-mail: p-guimond@govst.edu**  
OFFICE HOURS: **Mon. 12:00-1:00 and 3:00-4:00**  
**Wed. 8:30-9:30 and 12:30-3:30**  
**Other hours by appointment**  
CREDIT HOURS: **Laboratory, 1 credit**  
TRIMESTER: **Fall 2003**

**CATALOG DESCRIPTION:**

This course provides a series of laboratory and/or field activities appropriate to the topics covered in BIOL 305 and BIOL 306. It emphasizes both knowledge and skills in laboratory operations.

**PREREQUISITE:**

BIOL 305 or BIOL 306 or concurrent enrollment

**RESTRICTIONS:**

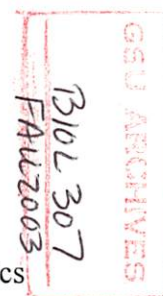
None

**RATIONALE:**

This course provides a series of experiments and/or field activities, which directly correspond to the topics, covered in BIOL 305 and BIOL 306. Scientific inquiry is encouraged as students have the opportunity to experience learning with a hands-on approach. This is accomplished through the use of experiments, data collection, data analysis, and communicating the information through writing.

**INTENDED AUDIENCE:**

Students seeking a biological science lab course to satisfy general education requirements and students interested in hands-on activities to enhance their learning and understanding of topics covered in BIOL 305 or BIOL 306.



**EXPECTED STUDENT OUTCOMES: (COMPETENCIES)**

Upon completion of the course students will be able to:

1. Describe the fundamental processes of mitosis and meiosis, osmosis and diffusion
2. Distinguish between the processes of mitosis and meiosis
3. Diagram the basic components of the cell
4. Describe the functions of cellular organelles
5. Design tables and graphs as a means of displaying their results
6. Produce accurate biological drawings
7. Calculate mitotic index
8. Calculate time for mitosis
9. Apply basic principles of cellular transport
10. Describe the structures and functions of plants
11. Interpret and solve human genetics problems
12. Create a pedigree which covers three generations
13. Design an experiment to solve a scientific problem
14. Perform a flower dissection
15. Create a means of displaying the results of a flower dissection
16. Perform a frog dissection
17. Analyze the results of an experiment
18. Classify plants as monocots or dicots

**INSTRUCTIONAL ACTIVITIES:**

Lecture, demonstration, experimentation, problem solving, discussion

**TEXT:**

A biology textbook for use as a resource and to supplement lab manual

## **TENTATIVE COURSE OUTLINE:**

<b><u>Date</u></b>	<b><u>Lab Exercise</u></b>
9-8	Scientific Investigation
9-15	Scientific Investigation
9-22	Microscopy and Cells
9-29	Microscopy and Cells
10-6	Cell Reproduction
10-20	Cell Reproduction
<b>10-27</b>	<b>Midterm Exam</b>
11-3	Genetics
11-10	Genetics
11-17	Plant Anatomy
11-24	Plant Anatomy
12-1	Frog Dissection
<b>12-8</b>	<b>Final Exam</b>

Please feel free to discuss the lab results with your lab partner and ask me questions if you are confused.

Submit the entire lab manual experiment with any additional pages all stapled together and in order.

Lab experiments are due at the beginning of class the week following the completion of the experiment.

## **EVALUATION:**

Student evaluation is based on two classroom exams and six laboratory reports as well as participation in class discussions. Students will have classroom opportunities to learn the proper format for lab reports. They will also have classroom opportunities to learn about conducting scientific literature research from the University Library staff.

The following grading scale will be used:

Percentage	Letter Grade
90-100%	A
80-90%	B
70-79%	C
60-69%	D
Below 60%	F

## **ACADEMIC HONESTY:**

Students are expected to fulfill academic requirements in an ethical and honest manner. This expectation pertains to the following: use and acknowledgement of the ideas and works of others, submission of work to fulfill course requirements, sharing of work with other students, and appropriate behavior during examinations. These ethical considerations are not intended to discourage people from studying together or from engaging in group projects. See also the Student Handbook for the University policy on academic honesty.

## **UNIVERSITY POLICIES AND PROCEDURES:**

All University policies and procedures outlined the in Student Handbook are applicable in this course.

## **STUDENTS WITH DISABILITIES:**

Students, who have a disability or special needs and require accommodation in order to have equal access to the classroom, must register with the designated staff member in the Division of Student Development. Please go to Room B1201 or call (708) 534-4090 and ask for the Coordinator of Disability Services. Students will be required to provide documentation of any disability when an accommodation is requested.