

LS 1111 Principles of Biology Lab
13 January-28 April 2011

Spring 2011, St. Gregory's University

Instructor: Donald Winslow, Ph.D.

Office: BH403

Email: dewinslow@stgregorys.edu Phone: 878-5197

Office hours: 10-11 a.m., Tuesday (or by appointment)

10 a.m.-12 noon, Thursday (or by appointment)

<http://intranet.stgregorys.edu/people/faculty/dewinslow> <http://donaldwinslow.info>

Class meets Thursdays from 8-10 am in BH401 (the biology lab). Class sessions include lab exercises, field exercises, and lab practicals.

Course description (adapted from the SGU Course Catalog)

Biology laboratory enhances the learning experience of the lecture course (Principles of Biology LS1113) by incorporating hands-on interaction and basic experiments to develop an in-depth understanding of major biological concepts. Exercises explore measurement, microscopy, cell structure and function, diffusion and osmosis, reproduction, diversity and classification of organisms, tree community ecology, and anatomy. Lab fee required. LS1111 requires LS1113 as a corequisite (taken concurrently) or a prerequisite (completed beforehand). Together, these two courses serve as prerequisites for many higher-level life science and natural science courses. LS1111 also satisfies the core curricular natural science lab requirement for students in all majors. Instructional methods include lab and field exercises.

Course objectives

Students in LS 1111 develop skills to:

- (1) Demonstrate the ability to write and speak clearly and coherently in English;
- (2) Apply critical thinking and problem-solving skills, quantitative reasoning, and the scientific method appropriately to biological questions.
- (3) Interpret technical articles in professional academic journals;
- (4) Compose scholarly papers using appropriate professional format;
- (5) Apply standard laboratory methods safely and accurately.

Textbooks and required materials

Mader, Sylvia S. 2011. *Laboratory Manual to Accompany Inquiry into Life*, 13th ed., McGraw-Hill, NY. ISBN 978-0-07-729743-5

You will also need a notebook for recording sketches and observations. This should be separate from the notes you keep for the lecture course (LS1113), because you will turn in your laboratory notebook at the end of the semester. If you are in the lecture course, you will want to hold on to your lecture notes to prepare for the final exam.

Course requirements and evaluation (dates may change)

Assignment	Points	Date due
Participation	10	Every day
Report on cell function	20	3 March
Lab practical	20	24 March
Report on tree community exercise	20	20 April
Lab notebook	10	28 April
Final lab practical	20	28 April
Total	100	

Grading scale: 90-100:A; 80-89.5:B; 70-79.5:C; 60-69.5:D; 0-59.5:F

Participation--I will assign participation points based on how fully you participate in lab and field exercises.

Reports--You will submit written reports detailing the findings of two of our lab exercises. These will follow the format of a scientific research report. See Appendix A of the Mader (2011) lab manual. Reports should reference at least one relevant article from a peer-reviewed journal. References should be appropriately cited and formatted. Reports should not exceed five pages in length. Each student will submit a paper at www.turnitin.com or send an electronic copy to Donald Winslow. I will grade the papers based on your review of background information, statement of objectives, description of procedures, summary and interpretation of results, discussion of limitations and future directions, conclusions, citation, originality, reasoning, clarity, format, style, grammar, and spelling.

Lab practicals--During the lab practicals you will be shown specimens and will answer questions about them. Most questions will involve classification and morphology. I will grade practicals based on the correctness and completeness of answers.

Lab notebook--During every lab you should record observations and sketches in your lab notebook. Make sure to include the date, observers, times of observations, measurements, data, notes, sketches of specimens, and answers to important questions. I will grade notebooks based on completeness and neatness.

Schedule--My wife and I are expecting a newborn in late February or early March, so our schedule will have to be flexible. Students will be expected to make progress on coursework during the time that I am out of the classroom.

Schedule--Tentative schedule, subject to change

For updates, see <http://intranet.stgregorys.edu/people/faculty/dewinslow> or <http://donaldwinslow.info>

For readings, see Mader lab manual.

Date	Exercise	Readings
13 January	Introduction to course, measurement	Syllabus, Lab 2
20 January	Microscopy, cells, tissues	Labs 2-3
27 January	Cell function--diffusion & osmosis, cellular respiration	Lab 4, 7
3 February	Mitosis, meiosis, & development	Lab 5, 19
10 February	Bacteria & Protists	Lab 24, pp 329-341
17 February	Plant classification	Labs 25-26
24 February	Karen & Donald's baby due! (work on cell function report)	Cite sources
3 March	Plant morphology & physiology	Lab 9-10
10 March	Fungi	Lab 24, pp 342-345
24 March	Lab practical	Labs 2-5, 7, 9-10, 19, 24-26
31 March	Invertebrates	Labs 27-28
7 April	Vertebrates	Lab 29
14 April	Tree community exercise	To be announced
28 April	Final lab practical	Comprehensive

Course policies:

Exams and assignments--Ordinarily practicals will not be rescheduled for individual students.

Assignments should be turned in on time. I will deduct 10% for each day a paper is late. If I do not have sufficient time to read a late paper, it will not receive a grade.

Attendance and promptness--The SGU attendance policy, as printed in the Course Catalog, reads:

Students are expected to attend every class session of the courses in which they are enrolled. Instructors are required to keep records of student attendance. Each absence impacts a student's grade, either directly or indirectly. Students are ordinarily expected to make up any work missed as a result of an absence.

The University's minimum standard is that absences of 20% or more ordinarily will lower the course grade one letter for each absence beyond this threshold or, after issuing a warning through the registrar's office, faculty may drop the student from the course. Faculty may have more restrictive attendance policies stated in individual course syllabi. Co-curricular activities are ordinarily excused, as long as the total number of absences does not exceed the University's minimum attendance standard. Arriving late for a class or leaving early from a class may be counted as an absence or partial absence (in accord with the instructor's attendance and tardiness policy as published on the course syllabus).

We have 13 class sessions for this course. That means that a student who misses more than 2 class

meetings will be subject to the above penalties. Please arrive promptly. I reserve the right to count it as an absence if a student arrives unreasonably late or leaves before being dismissed.

Academic honesty--The SGU academic integrity policy, as printed in the course catalog, reads:

St. Gregory's University expects its students to demonstrate integrity in their academic work.

Acts violating academic honesty include:

1. Cheating on examinations, quizzes or other written work;
2. Giving assistance to or receiving assistance from another during an examination or quiz;
3. Plagiarism, defined as:
 - the use of another's published work (either through a full quotation, partial quotation, paraphrase, or summary of an author's ideas);
 - the use of another student's work as one's own; or
 - the purchase, use or provision of an already prepared paper;
4. Obtaining, or attempting to obtain, copies of uncirculated examinations or examination questions;
5. Falsifying any academic record.

Students found to have committed one or more of acts 1-4 will receive an F for the examination, written work or quiz in question, and (if deemed appropriate by the instructor) for the course. The instructor must then provide written notification of the incident to the dean of the College of Arts and Sciences. If the dean determines that it is not the first incident of academic dishonesty by the student, the matter will be referred to the Academic Council. After reviewing the incident, the Academic Council will recommend to the dean an appropriate penalty, which may include academic probation for up to one year, suspension for up to one year, or expulsion.

An alleged violation of act 5 will be adjudicated in accord with the student disciplinary procedures describe in the SGU Student Handbook.

Classroom behavior--Please do not disrupt the classroom. Avoid interrupting the instructor or a classmate. Treat others with respect. If you are having trouble getting a word in, you can raise your hand. Do not engage in side conversations. Electronic devices should be turned off and put away unless they are being used to participate in the class or take notes.

Other university policies

Policy on Discrimination and Equal Opportunity

St. Gregory's University is an equal opportunity, co-educational and Catholic institution of higher learning. It is open to students and faculty of all faiths, and does not discriminate in admissions or employment on the basis of race, color, gender, age, disability, religion, national origin or veteran status.

ADA Policy

St. Gregory's University complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request to the Dean of Student Life prior to the end of the **first week of classes**.