

LS1113 Principles of Biology

Spring 2011, St. Gregory's University

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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 sessions

Biology lecture meets in BH406B on Tuesdays and Fridays from 11 a.m. to 12:15 p.m. "Lecture" sessions may include lectures, discussions, and exams.

Course description (as printed in the SGU Course Catalog)

This course provides the student with the basic principles of biology. These include cellular organization and function, genetics, reproduction and development, natural selection, classification of living organisms, representative taxa, ecology, and environmental and conservation issues.

Student learning outcomes

In LS 1113 students develop skills to:

- (1) 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) Explain the philosophical basis of science;
- (4) Define science (and biology in particular) as a human endeavour;
- (5) Explain the nature of science and scientific knowledge;
- (6) Explain fundamental organizing principles in the life sciences;
- (7) Describe major events in the history of biology; and
- (8) Describe the phylogeny, morphology, and ecology of various animal taxa.

Textbooks and materials:

Mader, Sylvia S. 2011. *Inquiry into Life*, 13th ed., McGraw-Hill, NY. ISBN 978-0-07-340344-1

Course requirements and evaluation:

<u>Assignments</u>	<u>Points</u>
Participation	30
Exam I	30
Exam II	30
Exam III	30
Exam IV	30
Homework	30
Literature review paper	30
Quizzes	30
Final exam	60
Total	300

Grading scale: A 270-300; B 240-269.5; C 210-239.5; D 180-209.5; F 0-209.5

Reading assignments will be announced in class and/or posted at:
<http://intranet.stgregorys.edu/people/faculty/dewinslow> or <http://donaldwinslow.info>

Exams--Lectures and readings do not repeat each other perfectly; students are responsible for material from both. Exams are designed to assess students' ability to apply biological principles, as well as knowledge of the taxonomy, morphology, and ecology of various groups of organisms. The final exam will be comprehensive; i.e., it will include material from lectures and reading assignments covered by earlier exams.

Participation—Your grade includes 30 possible points for participation. This is based on my subjective assessment of how completely you participate in lectures and discussions.

Writing assignment—You will be writing one literature review paper on a topic of interest to you. I will assess your papers based on spelling, grammar, style, format, accuracy, organization, clarity, and reasoning.

Readings--Readings from course textbooks and other sources will be assigned as we go along.

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.

St. Gregory's University's mission statement

The central statement in the mission statement of St. Gregory's University reads:

"St. Gregory's University promotes the education of the whole person in the context of a Christian community in which students are encouraged to develop a love of learning and to live lives of balance, generosity, and integrity."

Schedule of biology lecture sessions, St. Gregory's University, Spring 2011 (tentative)

This schedule is likely to change. See <http://intranet.stgregorys.edu/people/faculty/dewinslow> for updates. You may also check <http://donaldwinslow.info> when I am away. Readings, unless otherwise specified, are from Sylvia S. Mader 2011. *Inquiry into Life*, 13th ed., McGraw-Hill, NY.

Date	Topic	Readings
14 January	Greetings	
18 January	Introduction to course, science	Ch. 1 pp 10-15
21 January	Matter & energy, life, biochemistry	Ch. 1 pp 1-9; Ch. 2 pp 20-35, 37-41
25 January	Cell structure & function	Ch. 3
28 January	Biological membranes & cell walls	Ch. 4; Ch. 3 pp 47-49
1 February	Energy & life	Ch. 6
4 February	Photosynthesis & cellular respiration	Ch. 7-8
8 February	Exam I	Ch. 1-4, 6-8
11 February	Reproduction	Ch. 5, 21
15 February	Genetics	Ch. 23-24
18 February	Molecular genetics & biotechnology	Ch. 25-26
22 February	Winslow may be out	Work on literature review paper
25 February	Winslow may be out	Work on literature review paper
1 March	Evolution	Ch. 27
4 March	Exam II	Ch. 5, 21, 23-27
8 March	Biological diversity, quasi-organisms	Ch. 1 pp 1-2, 6-7; Ch. 28 pp 590-596
11 March	Prokaryotes & protists & fungi	Ch. 28 pp 570-589, 593
15 March	Spring Break	No class
18 March	Spring Break	No class
22 March	Plants	Ch. 29
25 March	Plant physiology, reproduction, & behavior	Ch. 9-10
29 March	Animals	Ch. 30-31
1 April	Exam III	Ch. 1, 9-10, 28-31
5 April	Animal circulation, immunology, respiration	Ch. 12, 13, 15
8 April	Digestion, urogenital system	Ch. 14, 16
12 April	Muscles, skeleton, integument, development	Ch. 19, 22
15 April	Internal signaling & animal behavior	Ch. 17-18, 20, 32
19 April	Exam IV	Ch. 12-20, 22, 32
22 April	Good Friday	No class
26 April	Ecology	Ch. 33-35
29 April	Biodiversity conservation	Ch. 36
May	Final exam	Comprehensive

Course policies:

Exams and assignments--Ordinarily exams 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 is printed in the Course Catalog. According to this policy, students who miss more than 20% of class meetings for a particular course may be dropped from the course or have their final grades reduced by one letter grade for each additional absence. We

will have about 27 class sessions for this course (including the final examination). That means that a student who misses more than 5 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**.