

SHERIDAN COLLEGE
BIOL 1010 GENERAL BIOLOGY I, 4 Credits
Life Science Department
Natural Science Division

Fall Semester 2009

INSTRUCTOR: Ami Erickson, Ph.D. **TELEPHONE:** 307-674-6446 ex 3104

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OFFICE HOURS: TBA - Please feel free to contact me to schedule additional office hours.

COURSE DESCRIPTION: General biology I is a beginning biology course emphasizing the concepts of the chemical basis of life and its molecular and cellular organization. Nuclear division, heredity, evolution, behavior and ecology are integrated into these concepts (3 lect, 3 lab hrs/week).

PURPOSE: General Biology I is an introductory course for biology majors. It is a natural science elective for transfer students and a prerequisite for Anatomy & Physiology and for Microbiology. It emphasizes concepts underlying living systems and the use of the scientific method for problem solving.

COURSE OUTCOMES:

General:

- 1) Demonstrate the ability to apply the scientific method to the solution of problems
- 2) Demonstrate effective written and oral communication skills
- 3) Research, focus and apply resources to the solution of problems

Specific:

- 1) Demonstrate an understanding of biological chemistry and metabolism.
- 2) Demonstrate an understanding of energy relationships in living systems.
- 3) Demonstrate an understanding of the principles of membrane structure and function.
- 4) Demonstrate an understanding of cell structure and function for both eukaryotic and prokaryotic cell types.
- 5) Demonstrate an understanding of photosynthesis and the respiratory process in plants and animals.
- 6) Demonstrate knowledge of cell division.
- 7) Demonstrate an understanding of the modern concepts of heredity and be able to solve problems in genetics.
- 8) Demonstrate an understanding of molecular nature and basis for inheritance and the workings of DNA.
- 9) Demonstrate an understanding of the connection between genes, proteins and traits.
- 10) Demonstrate an accurate understanding of the theory of evolution.

PRE-REQUISITES (RECOMMENDED) - Placement into ENGL 1010 and MATH 930 or higher.

CO-REQUISITES: Must be registered for a laboratory section.

REQUIRED MATERIALS:

- Textbook –Campbell•Reece. Biology: 8th Ed. Pearson/Benjamin Cummings Publisher
- Online materials - Mastering Biology - www.masteringbiology.com - \$35. With online textbook - \$90
- Calculator
- Access to a computer with internet connection

COURSE STRUCTURE:

This class will consist of a variety of lectures, discussion, and other activities. Class participation is a must and will greatly enhance the learning experience.

GRADING SCALE: A letter grade will be awarded based upon exam, assignment, and laboratory grade. Grades will be assigned as follows:

4.0 = A = 90-100%	3.0 = B = 80-89%
2.0 = C = 70-79%	1.0 = D = 60-69%
0.0 = F = less than 60%	

GRADING SYSTEM/ EVALUATION:

Learning Activities - 25%

In Class Quizzes (10 @ 5pts each)	50
Online Assignments / In Class Activities	100

Assessments - 40%

Take Home Exams (4@50pts each)	200
Midterm and Final (2@100pts each)	200

Competencies - 10%

Hydrophilic & Hydrophobic Molecules	25
Osmosis/Diffusion/ Active Transport	25
Molecules and Metabolic pathways	25
Solving Genetics Problems	25

Biology Laboratory -25%

See Biology Lab Syllabus and visit and attend lab for details

Extra Credit: Extra credit will be available on exams, on in-class activities and in labs. No make-up of missed extra credit opportunities is available.

Learning Activities: Learning activities include quizzes, in class activities, critical thinking question homework, group assignments.

- **In class quizzes** take place during the first 5 minutes of class each day. **If you are late or miss the class you cannot make up the quiz.** Quizzes cover content that was covered in prior classes and assigned readings.
- **In class activities** will occur frequently during the semester. **Be forewarned, classroom activity points cannot be made up, if absent.**
- **Online Assignments** are **optional** homework assignments that are completed on line. You will need access to Masteringbio.com to complete these assignments. Instructions will be provided in class. **Online assignments can be used to make up missed in class activities.** They also provide a little extra credit. The maximum points that can be earned for the "In class/ Online assignment" category is 115pts.

Take Home Exams: will cover information from lecture notes, handouts/reading material, classroom discussion, and material presented in videos. Exams will include a variety of question types...vocabulary, reading comprehension, diagrams, short written answer (i.e. define, describe, explain, compare, contrast, calculate, etc.), true and false, and essay. Take home exams are to be completed by the individual. **Any sharing or discussion of questions and answers with other people will be considered cheating.** However, notes and the textbook can be used on the exams.

Midterm & Final Exam: The midterm and final exams will take place during class and will consist of mostly multiple choice, matching and a couple short answer questions covering all content prior to the exam.

Competencies: Exams to assess your ability to solve biology problems using biology concepts. These exams are closed notes. You will have the opportunity to retake each competency exam one time for a 5 point reduction in your grade. Competency exams must be completed by the designated time.

Laboratory Grade: See Laboratory syllabus

STUDENT RESPONSIBILITIES

Classroom Conduct Policy: Be respectful of your fellow classmates and the instructor. Do not distract your fellow students in their ability to learn. Please turn off ringers for all cell phones and pagers during lecture and exam sessions. Feel free to use your cell phones outside of the classroom. If your cell phone or pager rings during an exam, presentation or discussion, you will automatically loose 5 pts for each ring or measure. Use of cell phones, other communication devices or audio devices are not permitted during exams. Cell phones cannot be used as a calculator on exams.

Attendance Policy: Your attendance and participation is instrumental to learning this material. You are expected to attend each class session, be on time, and stay for the entire session. You are responsible for learning ALL material covered in class, whether you are present or not. If you do miss a class or part of a class, it is your responsibility to obtain the missed notes from a classmate. Discussion activities and assignments occur in class and cannot be made up if missed.

Come to Class Prepared: It is expected that every student will come to class prepared, having reviewed prior class concepts and completed any assignments. You will not be able to learn all of the biology content during the class sessions. **A significant amount of learning has to happen during study time, outside of class.**

Academic Honesty: Students at Sheridan College are expected to maintain the highest standards of academic honesty and integrity. Academic honesty means performing all academic work without lying, cheating, deceit, plagiarism, misrepresentation, or unfairly gaining advantage over any other student.

Violations of academic honesty are in violation of District standards for student conduct and shall result in disciplinary action. You are expected to do your own work throughout this course and demonstrate academic integrity. Cheating of any kind will not be tolerated and will result in zero credit for the assignment or exam.

Continued cheating (a second cheating event) will result in an F in the course. "Cheating" includes (but is not limited to) looking at, copying, discussing exam items with another student, copying answers from another's assignment, using notes, a cheat-sheet or text book during an exam or quiz unless given permission to do so, and plagiarism on any assignments, oral or written. Written assignments must be your own work, and the work must have been undertaken for this class.

-Note - Working together and discussing lab exercises, discussion questions, or assignments is encouraged, but each student must answer questions using their own words, unless given instructions to do otherwise (i.e. Team writings).

DROP / WITHDRAWAL / INCOMPLETE: Ceasing attendance does not activate the drop, withdrawal or incomplete grade processes. You must submit the appropriate forms for each by the published deadlines to end your enrollment in this class. Failure to complete the appropriate forms may result in a failing grade for this course on your permanent transcript. Forms for incomplete and in progress grades are available from the instructor. Only you, the student, can activate the withdrawal. See the Sheridan College Schedule for deadlines.

Incompletes are available to students who have completed 3/4th of the class with a grade of 70% or higher, but find themselves unable to complete the course. Incompletes must be requested prior to submission of final grades to the registrar. Incompletes must be completed within 6 months.

STUDENTS WITH DISABILITIES who believe they may need accommodations in this class are encouraged to contact the ADVISING OFFICE as soon as possible to ensure such accommodations may be implemented.

Tentative BIOLOGY 1010 Schedule - Subject to revision

	Date	Topics & Activities	Reading Assignment	Assignments, Quizzes, & Exams
Week 1	Thursday - 9/3 First Day of Class	Formalities Organization of Life; Scientific Method	Chapter 1	MasteringBio Assign 1
Week 2	9/8 to 9/10	Life's Chemical Basis	Chapter 2 & 3	Tues - Quiz 1 MasteringBio Assign 2
Week 3	9/15 to 9/17	Molecules of Life Competency 1: Hydrophilic & Hydrophobic	Chapter 4 & 5	Tues - Quiz 2 MasteringBio Assign 3
Week 4	9/22 to 9/24	Cell Structure & Function	Chapter 6	Tues - Quiz 3 MasteringBio Assign 4
Week 5	9/29 to 10/1	Cell Membranes Competency 2: Diffusion/Osmosis/Active Transport	Chapter 7	Tues - Take-Home Exam 1 due MasteringBio Assign 5
Week 6	10/6 to 10/8	TUES - Film or Review??? THURSDAY - COMPETENCY Assessment 1&2	Chapter 8	Tues - Quiz 4
Week 7	10/13 to 10/15	Ground Rules of Metabolism	Chapters 1-8	Tues - Quiz 5 MasterinBio Assign 6
Week 8	10/20 to 10/22	Tuesday - Group Quiz Thursday - Midterm		Tues - Take-Home Exam 2 due Tuesday: Group Quiz - Chapters 1 - 8
Week 9	10/27 to 10/29	Cellular Respiration Photosynthesis Competency 3: Molecules and Metabolic Pathways Competency	Chapter 9-10	
Week 10	11/3 to 11/5	The Cell Cycle Meiosis	Chapter 12-13	Tues - Quiz 6

	Date	Topics & Activities	Reading Assignment	Assignments, Quizzes, & Exams
Week 11	11/10 to 11/12	Patterns of Inheritance Competency 4: Genetics	Chapters 14-15	Tues - Quiz 7
Week 12	11/17 to 11/19	Evolution	TBA	Tues - Quiz 8 Take-Home Exam 3 due
Week 13	11/24 to 11/26 - Thanksgiving	TUESDAY - Competency Assessment 3 & 4 THURSDAY - Thanksgiving - no classes		
Week 14	12/1 to 12/3	DNA Structure	Chapter 16	Tues - Quiz 9
Week 15	12/8 to 12/10	From DNA to Proteins	Chapter 17	Tues - Quiz 10
Week 16	12/15 to 12/17	Tuesday - Group Quiz Thursday - Final Exam	Chapters 9 - 17 + handouts	Take-Home Exam 4 due Tuesday - Group Quiz