

SCED 203 Flow of Matter and Energy in Life Systems

Fall 2009 – Alejandro Acevedo

- Class:** SMATE SL 210; MWF 13:00-15:00 h
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Office Hours: Acevedo (BI 309): M 15-16; T 10-12, 13-14; F 11-12
Graduate TA: Ian Healey
Required Text: SCED 203- 2009 Course Manual, available at the bookstore. Please bring the manual to class each day. Extra copies will NOT be available if you forget to bring yours.

In this third course of a three-course series you will receive a firm base in the scientific study of life through inquiry-based instruction and the conduction of scientific activities. The course covers basic biology and chemistry, with emphasis on diversity and evolution of life, interactions between living organisms and their environment, and energy transformations, including photosynthesis and cellular respiration.

Learning Outcomes: At the end of this course, you will:

1. Describe how energy and matter are acquired by and transferred through living organisms.
2. Describe how an ecosystem is structured according to flows of matter and energy.
3. Understand how the flow of energy and matter influences the evolution of living organisms.
4. Understand that science and common sense use similar thought processes (logic).
5. Make detailed observations and descriptions of patterns.
6. Formulate hypotheses and predictions.
7. Identify and control variables.
8. Conduct precise and accurate measurements.
9. Read and interpret scientific data presented graphically.
10. Learn about your own and your peer's science learning.

Daily Attendance and Participation: You should attend class every day since you will be part of a group and will learn the material from the daily activities, which will represent half your course grade and prepare you for the exams. More than two absences will result in the loss of your attendance points. If you know in advance you are going to be absent, you should also contact an instructor AND a member of your group.

Late arrivals: Class starts on time. Late arrivals are greatly discouraged and will negatively impact your achievement in the course. More than three late arrivals will result in the loss of your attendance points.

Academic Integrity: Cheating, plagiarism, etc. is a violation of the Student Code of Conduct and will not be tolerated. All work you submit for the course should be your own. Students who cheat or plagiarize, or who knowingly help another to cheat will receive a zero on that assignment and/or will be expelled from the class. Violations of academic integrity will be reported to the Director of Student Life. Please note: *Even one sentence copied from another person's work without acknowledging the real author is plagiarism.*

Participation: You will develop your own understanding of the material through lab experiments and discussion activities. You must be engaged and respectful, questioning and contributing to the group's success. Participation is a key element in this course; you will be evaluating your group and yourself periodically.

Homework: Homework will be assigned throughout each cycle and may require conducting experiments, visiting websites, etc. Homework should be completed individually, and must be your own work. More than two missed or late homework assignments will result in the loss of your homework points.

Late work: Due dates for assigned work will be announced in class and *are due at the beginning of class* (or they are late). Work submitted late on the due-date and thereafter will receive a 10% deduction. NO work will be accepted more than one day late.

Exams: All exams will be closed book. Attendance on exam dates is required unless you have a valid medical or family emergency excuse AND have previously communicated with an instructor via phone or email.

Pre- and post-assessments: In order to give the instructors an idea of your current understanding of the topic and the efficacy of the course, you will be asked to answer pre- and post-assessment questions. Your grade will not be affected by these assessments, but you NEED to take them in order to receive a grade for the class. You will take three assessments at the beginning and three at the end of the course (a total of two in class and four online via Blackboard or internet).

Grades:

Final exam (cumulative)		140 point total	28%
Cycle exams (2)	60 points each	120 points total	24%
Homework		120 points total	24%
Participation (evaluation by your peers and the instructors)		70 points total	14%
Attendance:		<u>50 points total</u>	10%
		500 points TOTAL	

Your class grade is determined using the following scale:

100% ≥ A > 94%	84% ≥ B- > 80%	70% ≥ D+ > 67%
94% ≥ A- > 90%	80% ≥ C+ > 77%	67% ≥ D > 64%
90% ≥ B+ > 87%	77% ≥ C > 74%	63% ≥ D- > 60%
87% ≥ B > 84%	74% ≥ C- > 70%	60% ≥ F > 0%

Tentative Schedule

Week	Date	Cycle/Activity (MWF 13- 15, SLR210)
1	Sep W 23	Introduction. Cycle 1, Activity 1
	F 25	Cycle 1, Activity 2
2	M 28	Cycle 1, Activity 3
	W 30	Cycle 2, Activity 1-2
	Oct F 2	Cycle 2, Activity 2-3
3	M 5	Cycle 2, Activity 4
	W 7	Cycle 2, Activity 5
	F 9	Cycle 2, Activity 6
4	M 12	Cycle 2, Activity 7-8
	W 14	Cycle 2, Activity 8- 9. Review Cycles 1-2
	F 16	EXAM I Cycles 1-2
5	M 19	Cycle 3, Activity 1
	W 21	Cycle 3, Activity 2
	F 23	Cycle 3, Activity 3
6	M 26	Cycle 3, Activity 4
	W 28	Cycle 3, Activity 5
	F 30	Cycle 3, Activity 5, Optional Activity
7	Nov M 2	Cycle 4, Activity 1
	W 4	Cycle 4, Activity 2
	F 6	Cycle 4, Activity 3. Review Cycle 4
8	M 9	EXAM II Cycles 3-4
	W 11	HOLIDAY!!
	F 13	Cycle 5, Activity 1
9	M 16	Cycle 5, Activity 2
	W 18	Cycle 5, Activity 3
	F 20	Cycle 6, Activity 1
10	M 23	Cycle 6, Activity 1
	W 25	HOLIDAY!!
	F 27	HOLIDAY!!
11	M 30	Cycle 6, Activity 2
	Dec W 2	Cycle 6, Activity 2
	F 4	Review Cycle 6
	T 8	FINAL EXAM Cycles 1 through 6 15:30-17:30 h