

## NS 150: Introduction to Natural Sciences Fall 2008

**Instructor:** Jane Finan  
**Office:** MLH 221  
**Phone:** 799-2407  
**Email:** [jfinan@lcsc.edu](mailto:jfinan@lcsc.edu)

**Meeting time:** TTH 9-10:15 am  
**Meeting place:** MLH 110  
**Section:** 01  
**Credits:** 3

### A. Course Objectives:

Natural Sciences 150 is a one-semester course designed to give students an understanding of the nature of science. Through a variety of activities students will assess their own scientific literacy and find ways to enhance it. Students will gain an understanding of the scientific process and develop tools to sort out good science from bad science. Students will have the opportunity to evaluate, speak, and write critically about scientific concepts and ideas. Discussions and readings will familiarize students with the integration of science with other human interests such as public policy, economics, mass media, art, and religion. Ultimately, the goal of the course is to give students an appreciation of how science works and the importance of science in their everyday lives.

### B. Required Texts:

Carey, S.S., *A Beginner's Guide to Scientific Method*, 3<sup>rd</sup> Edition. 2004

Schwarcz, J., *A Fly in the Ointment*, 2004.

Additional reading materials will be on reserve at the library.

### C. Student Responsibilities:

Success in this class depends on being prepared for every class period. Preparation will typically include reading assigned material and answering assigned questions. It is essential that you be prepared daily. **Attendance is mandatory** in this course because a portion of your grade is based on class/team participation. Students are expected to be present for the entire period of every class that we meet. If a student misses class it is their responsibility to find out what they missed during the missed class. Missing a class is not an excuse for being ill prepared for the next class meeting. Only in legitimate cases of an emergency will attendance be excused. Documentation of this emergency must be provided in order for the attendance exception to be made.

Beginning the second class meeting, all class members will be placed on teams. Team participation is a component of each student's grade and each team member will evaluate their team member's participation. Students are expected to be respectful of their classmates and their classmates' opinions. It is expected that students will cooperate with one another and participate as equal members.

**Assignments must be turned in on time.** Work is due at the beginning of class and will be collected at 9 am. There will be a 10% deduction for turning in work collected any time after

the beginning of class through 5 pm of the day it's due. Assignments will be considered late if a student arrives late for class. There will be an additional 10% deduction assessed if work is turned in by 5 pm the day following the due day. Work will not be accepted or graded if it is turned in later than 5 pm following the due day. The only exception to this is a documented emergency. If you know you are going to miss class because of a school sponsored activity, you must turn in your assignments prior to leaving for that activity.

Students are responsible for checking BbCE accounts daily for email, announcements or assignments. All email sent to the instructor should be sent through Blackboard. I will check and respond to email daily at 8 am.

**If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements if the building must be evacuated, please make an appointment to talk with me.**

#### **D. Activities and Assignments**

This course is designed to give students a broad range of activities to participate in. These activities will include writing assignments, discussions, debate, speaking assignments, group activities and quizzes. **All writing assignments must be typed, double-spaced or they will not be accepted.** Please do not use cover pages for any assignments. Completed assignments that are more than one page must be stapled. In addition to content, all written assignment will be evaluated with regard to spelling, punctuation, and sentence structure. Students must turn in their own work.

*Fly in the Ointment (FITO):* Most Wednesdays of the semester there will be a written assignment from the Fly in the Ointment text. Students must complete and turn in **ten** of the 12 assignments. Each reading response is worth 10 points. The assignments will be posted in BbCE. ,

*Literacy Audit:* You will be asked to write two essays in which you assess your own scientific literacy. I will hand out a detailed description of the exercises when they are assigned. Each of these essays is worth 50 points.

*In-Class Writing Assignments:* You will be asked from time to time to write short, simple answers to a question that is posed in class. These assignments will not be announced so be prepared everyday. There are no make-up assignments. These assignments will serve as a way to improve your writing skills through practice and feedback, and as a way for me to determine if you are attending class and grasping the material.

*Quizzes:* There will be 3 quizzes worth 25 points each. These quizzes will cover science facts, ideas, and research that you encounter in the reading assignments, lectures and class discussion. The dates of the quizzes are in the schedule. Content covered in the quizzes will be announced prior to each quiz. There are no make-up quizzes.

*Homework Assignments:* There will be 5 homework assignments during the semester. These assignments are taken directly from the text and the due dates are in the schedule.

*Debates:* We will have four debates on topics of scientific controversy during the semester. Each team will be assigned a topic and the side of the debate by random drawing. Teams may switch topics or sides of an argument if they find another team willing to switch. During the class meeting after the debate, those students not presenting the debate are responsible for questioning the presentation teams and then handing in an evaluation of both sides of the debates. The details of the debates will be given when the assignment is made. Your debate is worth 100 points and your participation in discussion and evaluation of other debates is worth another 100 points.

**D. Evaluation:**

Final grades will be based entirely on scores earned on activities as detailed below. Final averages will be calculated by summing total points earned and dividing by 6.2. Final grades will be based on the following:

93-100% = A    90-92% = A-    87-89% = B+    83-86% = B    80-82% = B-    77-79% = C+  
 73-76% = C    70-72% = C-    67-69% = D+    60-66% = D    less than 60% = F

The last day to withdraw from this class is Oct. 31, 2008. Drop slips will not be signed after this date. There will be no exceptions.

<b>Fly in the Ointment</b>	
<b>10@10pts</b>	<b>100 points</b>
<b>Scientific Literacy Audit I</b>	<b>50 points</b>
<b>Scientific Literacy Audit II</b>	<b>50 points</b>
<b>Quizzes:</b>	
<b>2 @ 25 points</b>	<b>50 points</b>
<b>Homework/In-class writing</b>	
<b>Assignments</b>	<b>90 points</b>
<b>Debate Presentation</b>	<b>100 points</b>
<b>Debate Critiques</b>	<b>100 points</b>
<b>Case Study Paper</b>	<b>50 points</b>
<b>Team Participation</b>	<b>30 points</b>
<hr/>	
<b>TOTAL</b>	<b>620 pts</b>

### E. Tentative Course Outline:

Week	Day	Date	Topic	Assignment Due
1	1	26 Aug	Introduction	
	2	28 Aug	Science Survey/Team Building	Read Carey p. 1-7
2	3	2 Sept	What is Science? Scientific Method.	Carey p. 7, #2,3.
	4	4 Sept	What is Science?	FITO
3	5	9 Sept	Observations	Read Carey p. 8-21
	6	11 Sept	Observations	Literacy Audit Carey p.22# 9 & 10
4	7	16 Sept	Explanations	Read Carey p. 26-39 Carey p. 45 #3
	8	18 Sept	Film: Dimming of the Sun	Carey p. 47 #11/FITO
5	9	23 Sept	Explanations/Discuss Dimming of the Sun	
	10	25 Sept	Quiz #1 Carey chp. 1-3	FITO
6	11	30 Sept	Testing Explanations	Carey chp. 4
		2 Oct	Testing Explanations	Carey chp 4 draft p. 66 #6/FITO
7	12	7 Oct	Statistics	Carey chp. 4 final p. 66 #6
	13	9 Oct	Missoula Floods	FITO
8	14	14 Oct	Causal Links	Carey chp. 5
	15	16 Oct	Causal Links	Chp. 5 homework draft/FITO
9	16	21 Oct	Causal Links	Chp 5 homework final
	17	23 Oct	Case Study: Cancer and Cell Phones	FITO
10	18	28 Oct	Case Study: Cancer and Cell Phones	Carey p. 99 #27
	19	30 Oct	Case Study: Cancer and Cell Phones	FITO
11	20	4 Nov	Quiz 2/Debate Team Time	Case Study: Cell Phones
	21	6 Nov	Debate #1	FITO
12	22	11 Nov	Class Questions and Response	Debate Critique #1
	23	13 Nov	Debate #2	FITO

13	24	18 Nov	Class Questions and Response	Debate Critique # 2
	25	20 Nov	Debate #3	FITO
14	26	2 Dec	Class Questions and Response	Debate Critique #3
	27	4 Dec	Debate #4	FITO
15	28	9 Dec	Class Questions and Response	Debate Critique #4
	39	11 Dec	Exit Essay - in class	

**F. Academic Dishonesty:**

Students are expected to do their own work. In the event of academic dishonesty, those involved will be disciplined to the fullest extent possible, including failure of the class.

As defined in the LCSC Student Handbook

(<http://www.lcsc.edu/osl/SHB/SHBcodeofconduct.htm>) , Academic Dishonesty is:

- a.) Cheating - intentionally using or attempting to use unauthorized material, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit hours.
- b.) Fabrication - intentional and/or unauthorized falsification or invention of any information or the source of any information in an academic exercise.
- c.) Collusion facilitating academic dishonesty - intentionally or knowingly helping or attempting to help another to commit an act of Academic Dishonesty.
- d.) Plagiarism - the deliberate adoption or reproduction of ideas or words or statements of another person as one's own without acknowledgment.