

Opportunities in science outreach (NS 270/470) Fall 2008

Instructor: Matthew Brady

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Office hours: 2:00pm–4:00pm Monday or by appointment.

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Lecture: FA 102

Time: 12:00pm–1:15pm

General Information:

Access & Accommodation

If you feel there is any physical or mental challenge to you that impedes your ability to participate in the class, please see me so we can remove or correct the problem. If you have any special medical needs and the building had to be quickly evacuated, also please inform me. Assistance with accommodation can also be found at the Office of Student Life, Room 111, Reid Centennial Hall.

Attendance: Class attendance will be mandatory as many aspects of putting together and performing outreach programs will be covered during the allotted time. Attendance and participation will be assessed according to overall participation in the class and the number of outreach programs that each student does. It is necessary that everyone be at class so demonstrators can get full and adequate feed back on their presentations before they take it into the class.

Last day to drop: The last day to drop any class this semester is **Friday, November 7.**

Course Structure:

Course objectives:

1. To learn how to develop a content-rich science demonstration suitable for elementary school classes.
2. Deliver science demonstrations to local elementary and secondary schools.
3. To learn the science behind the demonstrations in a way that facilitates teaching others.
4. To gain experience in performing the demonstrations.
5. To share in the excitement of participating in elementary science outreach.

This is a 1 credit course designed to provide students with a structured means of participating in the science outreach program through the Division of Natural Sciences and Mathematics. During the scheduled time, we will go over basic techniques as well as the logistics of putting together an outreach program. All students will be involved in every aspect of putting together and presenting the science outreach programs (e.g., developing and setting up demonstrations, assisting with programs, and leading programs). This time will also be used for

students to practice before going into a classroom so they can receive beneficial feedback on their presentation.

Students taking the course for lower division credit (NS 270) will simply assist during a number of outreach opportunities; they will also put together an assessment document (1-2 typed pages) of their involvement in the program as well as a plan for a demonstration they would like to see implemented in the future.

Upper division credit will be available for those students who have already participated in science outreach (either for credit or volunteering) and are willing to be lead presenters for at least one outreach opportunity. However, before they lead a presentation, students will initially assist with at least one program, followed by doing background research for a specific topic for which they will be program presenter. For each program the student is to lead, they must put together a summary of researched knowledge on the topic to show they are adequately prepared to present at the appropriate grade level and do a practice run in front of the class before going into the elementary classroom.

Evaluation:

Your grade will be based primarily upon class participation and participation in outreach opportunities. The rest of your grade will be based on the following requirements depending on whether you are taking it for lower or upper division credit. Further details are given below.

Lower division:

Assignment:	Points:
Participation in outreach programs	70
Assessment of participation in program	25
Demonstration plan	5
Total:	100

Upper division:

Assignment:	Points:
Participation in outreach programs	30
Demonstration write-up	20
Demonstration practice	20
Demonstration assessment from teacher(s)	20
Assessment of participation in program	10
Total:	100

Grading scale:

90-100%	A	80-82%	B-	70-72%	C-
88-89%	B+	78-79%	C+	60-69%	D
83-87%	B	73-77%	C	<60%	F

Participation in outreach programs: Everyone will participate in at least two outreach programs in order to receive a passing grade (75% of points for participating) in the course. For those students taking it for upper division at least one will be as lead presenter.

Keep in mind that there will be commitments outside of the regular class time that are required for this class. Once you sign up for an outreach program you are obligated to be there or to find someone who can replace you if you are unable to attend. If you cannot make a scheduled event, you need to let me know immediately so we can find a replacement. You will need a very good excuse (and a documented one at that) if you are to miss a pre-arranged event! We do not want to have any no-shows for our programs; it makes LCSC and the Division of Natural Sciences look bad.

The demonstration write-up. For each outreach program you will lead, you will produce a 2-3 page document summarizing the content knowledge on the topic. This will include a separate page for references cited (not included in the total page number). This is to ensure you are adequately prepared for interacting with the students as well as handling any questions they ask you.

The demonstrations. For each demonstration that you choose, you will assemble the materials, *practice the demonstration* and perform the demonstration for the interested parties. The practice demonstration will be in front of the class during our regular scheduled time and other interested individuals. You will get helpful feedback from these practice runs, so make sure they are in their final or close to final stage (how you would present them in a real classroom), so take these seriously! Once you have been given the okay from the instructor, you will be ready to take it to the class room. However, if there are things that need attention before going into the classroom, make sure you schedule your practice run with enough time to address these before your scheduled classroom visit.

The demonstration assessment from teachers. When you visit a classroom, you will give each teacher an assessment document, which they will fill out and return to me. Remember that you are not just representing yourself but LCSC and the Division of Natural Sciences and Mathematics, so you will want to do your best. Don't take these programs lightly! We want to be invited back.

Assessment of your participation in the program and the program itself: As your final task, you will be asked to do two things. First, fill out an assessment document (to be discussed later), and two, write an assessment of what you thought of the program and what you gained from it. I will give you more details at a later time.

Weekly meetings:

We will meet every Friday at noon. The first two Fridays will be devoted to an introduction to the outreach program and the logistics of preparing and putting away for different types of programs, involving the specimens available in the vertebrate collection. The remainder of the semester will be used for individual practice demonstrations as well as other issues regarding the outreach program (e.g., group discussions). Towards the end of the semester we will also discuss assessment of the program.