City as Classroom Project:
Biology 157: Principles of Environmental Science

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Course Description
This is a foundation biology course for non-majors that places emphasis on the unifying concepts of ecology. It is intended to demonstrate interconnections between life and physical science, provide opportunity for in-depth exploration of environmental issues and establish a relevance to students’ lives. Topics include: human influence on patterns and products of change in living systems, energy, matter and organization, and human interaction and interdependence with other living systems.
**Project Description**

The goal of this project was to research how the people living in this city have attempted to preserve a bit of the “natural” environment amidst the concrete. The project involved several steps that attempted to incorporate different principles that we discussed in class. Groups of students had to:

1. Identify a place in the city where an attempt has been made to either maintain or recreate a “natural” environment. This may include an area as large as Fairmont Park, as small as a neighborhood vegetable garden, or anything in between.

2. Research the location. How long has it been around, what was it like before, what is it like now? What was the driving force (political, social, environmental, economic, tourism…) behind its current condition? How much did it cost to create and how much does it cost to maintain? There are many opportunities in the area for some serious historical aspects to this information.

3. Visit the area at least twice. Spend some time there and describe what it’s like. Make a diagram of the area (i.e. map). Describe/count the species of flora and fauna found in the area. Are these species native or were they brought to the area? What are the people who use this area like and how are they behaving? What sorts of activities occur in this area?

4. Prepare a group PowerPoint presentation to be given to the class describing what you found. Include historical information, pictures of the area, your “map”, tables and charts describing the flora and fauna… anything that brings in aspects of the topics we talk about in class.

5. Write about what you found. Each student must write their own report that sums up what they found from their research. In addition, in these written reports you should comment on the benefits these areas have for our city and the sustainability of these areas given our ever growing population.
Outcomes

The project has been given to two different classes of students and has been met with varying degrees of enthusiasm. Most of the students understood the value of doing a thorough job and enjoyed discovering things about the city in which they live. They prepared elaborate PowerPoint presentations, collected data from several visits to their park, and analyzed and presented their findings in a professional manner. There were, of course, exceptions, but in most cases at least one member of each group did the heavy lifting. It was encouraging to hear environmental terminology peppered throughout the presentations and, in many cases, an attempt to gather abundant data and present it using appropriate charts and graphs.

Lessons Learned

1. Come armed with suggestions for research areas. Although some students may have lived here all their lives, they might not have a good sense of what’s around them. Surprisingly, no one ever complained about having to visit their park.

2. Clearly define, numerous times, what is expected in the final product, including providing examples all semester long of what good data/graphs/charts look like.

3. Demonstrate with specific classroom activities what it means/how to collect good data. The first semester we had a class where we went out to the quad on a nice day and counted things/collected data. The second semester we didn’t have that class (poor weather) and the quality of the data presented clearly diminished.

4. Have mini-deadlines throughout the semester to keep the students on task and not allow them to put everything off until the last week.