A Living Laboratory: Activity Template

We are creating a cross-disciplinary collection of teaching activities that use the best practice approaches fostered in the "Living Lab": adoption of City Tech's General Education Student Learning Outcomes, George Kuh's High Impact Educational Practices, place-based learning, open digital pedagogy (the OpenLab), and formal assessment methods.

Share your best practices with your colleagues! Use this form to record a favorite activity; an activity can be as small as an in-class exercise or as large as a semester-long project. Your description can be short or extensive – take as much space as you need.

Activity Title:	Research Project: Sustainable NYC
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Course:	CMCE 1155: Computer Application and Engineering Technology
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Activity Description:
Provide a brief description of the activity.

We focus on sustainability in relation to the built environment as a precursor for the course's capstone project, answering a request for construction proposal for a Brooklyn brownstone. First, students create a blog post on our Open Lab course website exploring the meaning of sustainability by drawing on their personal experiences and background. This serves as a low-stakes writing assignment and an introduction to the more rigorous research that follows.   Students then research a building in NYC that demonstrates sustainable design. The research hinges upon students visiting the building, touring the site and becoming their own source of information. To facilitate the research process, I invite a Research Assistant from City Tech's Library to give a guest lecture on Mapping and Information Literacy. The final product is a research paper along with a visual and oral presentation. Students are encouraged to incorporate sustainable design techniques they have researched into their capstone project.

Learning Goals:
What do you aim to achieve with this activity?

I use this activity as an opportunity to introduce the students to the practice of sustainability within related fields of study, a relevant global topic they will likely encounter post-graduation. I incorporate a low-stakes writing assignment to stimulate thought on the subject before they begin intensive research. By requiring the students to visit the subject of their research, they are encouraged to derive meaning from experience and gather their own information from observation. Students must then assimilate information from a variety of sources. Time spent with the Research Assistant will help the students understand how to this use the information in a professional and academic manner. I want my students to understand and practice effective communication.

As a whole, the activity is meant to reinforce many of the skills required for the course (knowledge of computer applications to create professional documents and presentations) while developing real-life skills (research and understanding/organizing information, oral presentation, communicating via web-based platforms).

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Timing:
At what point in the lesson or semester to you use this activity? How much classroom time do you devote to it? How much out-of-class time is expected?

This activity is a precursor to the final project for the course which makes up the last half of the semester. The blog post is assigned as homework for week 4. The entire assignment is given 3 weeks before the final project is introduced, around week 5. The students work on it in class a total of 3 sessions. I expect them to devote at least 12 hours to this activity over the course of 4 weeks.

Logistics:
What preparation is needed for this activity? What instructions do you give students?

I first introduce the blog post assignment without fully explaining the research project to allow students a broad view of the topic before they narrow it down to the built environment. At the beginning of the following class I spend around 20 minutes introducing the research project in depth and explaining how it will relate to topics covered previously in class and the final project. We then have a guest speaker for an hour and a half from the City Tech Library to talk about Mapping and Information Literacy, helping the students hone their research skills and understand how to cite sources. I provide a detailed list of requirements for the assignment, which are posted on our Open Lab course website along with all presentation material and helpful/interesting sources that I or my students find.

General Education SLOs:
Which of City Tech's General Education Student Learning Outcomes does this activity address?

- Engage in an in-depth, focused, and sustained program of study
- Pursue disciplined, inquiry-based learning in the major
- Acquire tools for lifelong learning – how to learn, how they learn, knowledge of resources
- Communicate in diverse settings and groups, using written (both reading and writing), oral (both speaking and listening), and visual means
- Derive meaning from experience
- Gather, interpret, evaluate, and apply information discerningly from a variety of sources
- Demonstrate intellectual honesty and personal responsibility
- Demonstrate expanded cultural and global awareness and sensitivity

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High Impact Educational Practices:
Which of George Kuh's High Impact Educational Practices does this activity incorporate? Does it use the OpenLab for open digital pedagogy? Does it include place-based learning? Choose all that apply and/or add your own.

George Kuh's High Impact Educational Practices:

X *First-year seminars and experiences* ☐ *Common intellectual experiences (core curriculum)*

☐ *Learning communities* X *Writing-intensive courses*

☐ *Collaborative assignments and projects* ☐ *Undergraduate research*

X *Diversity and global learning ("difficult differences")* ☐ *Service- or community-based learning*

☐ *Internships* ☐ *Capstone courses and projects*

X *Open Digital Pedagogy (the OpenLab)* **X Place-Based Learning**

☐ **Other (please describe):**

Assessment:
How do you assess this activity? What assessment measures do you use? Do you include your evaluation in grade calculations?

I use a grading rubric to assess this activity, which I explain and make available to students on our Open Lab course website at the beginning of the project. There are 5 criteria described: understands the scope and objectives of the research topic, writes information in a clear and meaningful, visual/oral presentation quality, credible and relevant sources and cites sources and in appropriate style. Each criteria is broken down into the 4 quality levels worth 5 points each, for a total of 20 points per criteria. After completion of the project I give each student a copy the rubric with my assessment and additional comments.

Reflection:
How has this assignment impacted your teaching? What challenges did you encounter and how did you address them? What feedback did students provide? How would you imagine this activity being used in different disciplines?

This assignment forced me to think about the students course work as a whole and understand how the different parts relate to and build upon one another. Being in the Construction Management and Civil Engineering Department, students in the past have not typically greeted the research assignment with marked enthusiasm. I was challenged with making the assignment more hands on and exciting to appeal to their strengths while developing their research and writing skills.

Additional Information:
Please share any additional comments and further documentation of the activity - e.g. assignment instructions, rubrics, examples of student work, etc. These could be in the form of PDF or Word files, links to posts or files on the OpenLab, etc.

The following link is the page for the research assignment, please note that the documents here are for Spring 2014 and do not reflect all changes for this Activity Template:
http://openlab.citytech.cuny.edu/andersonnicole1155sp2014/research/