Lehigh Parkway Island Restoration Effort

Lehigh Parkway is one of the largest parks in Allentown. This park follows the course of the Lehigh River as it runs through Allentown, providing green space to cite residents and protecting important waterways. As part of the New Deal, an island within the Lehigh River was created in this park, along with stone works and a bridge to access the island. The island that was historically a grassland, providing a picnicking location for residents until it began to be used as a nude beach in the 70s. In response to what was viewed as an unsavory use of this island, the bridge connecting the island to the mainland was removed in the mid 1990s. Since the island's isolation it has been poorly maintained. The island is now overgrown with invasive species, many of the trees on the island have fallen or been damaged in storms, and there is a lot of litter. In addition, the river is silted in on the near side of the island.

Our class will be proposing ways to restore this island and the surrounding area to health. You can work as individuals or with a partner to develop specific implementation guidelines for various parts of this restoration effort. Your guidelines need to be grounded in science and possible to implement. Readings have been provided on blackboard to help explain the project further. Potential projects include the following. You are welcome to design a different project from what is listed below but will have to have the project approved by Karen El-Chaar (Executive Director – Friends of Allentown Parks) and Dr. Heiman.

A) Investigate the silting issues in the river and discuss what could/should be done if anything about this issue.
B) Come up with a feasible strategy for removing invasive species and excess/damaged vegetation from the island that is feasible, effective, and as environmentally friendly as possible.
C) Design the native planting for the island; discuss in depth the reasons for using native plants and the goals for this restoration.
D) Design animal habitat (e.g. bird boxes, bat boxes, etc) for the island to encourage reestablishment of native wildlife on the island. This wildlife could include but is not limited to birds and mammals such as bats and river otters.
E) Develop plans for a riparian buffer to help prevent erosion of the river banks on and around the island.
F) Create an information outreach strategy for this restoration effort which could include social media, press releases, website updates, signage at the site, etc.

<u>Grading</u>
30% Draft restoration implementation report
40% Final restoration implementation report
30% Presentation of findings

<u>Project Dates</u>

Feb 5 Thurs, 2:00 - 4:50	Introduction to project and tour of Lehigh Parkway Island site
March 10 Tues, 2:00- 2:50	Draft of Island restoration reports due
April 23 Thurs, 2:00 - 4:5	Presentation of Island restoration reports

Community Partner Contact

Karen El-Chaar
Executive Director
Friends of Allentown Parks
2700 Parkway Blvd.
Allentown PA 18104
Phone: 610-432-7275
e-mail: kelchaar@allentownparks.org

Rick Holtzman
Allentown Dept. of Parks & Recreation, Superintendent
Phone: 610-437-7628
e-mail: Rick.Holtzman@allentownpa.gov
(Note Rick is probably the busiest of our contacts so use him sparingly)

Scott Burnet
Lehigh Valley Audubon Society
Habitat Development and Enhancement Chairman
selasphorus.scott@yahoo.com

Peter Saenger
Lehigh Valley Audubon Society
President
crex@dejazzd.com
and
Acopian Ornithological Specialist
Muhlenberg College Biology Department
Shankweiler 442S
Phone: 484-664-3508
email: psaenger@muhlenberg.edu
(Peter also works at Muhlenberg and would love to help with this project if you do something bird or habitat related.)

Claudia Steckel
Botanist
email: Csteckel.botanicalinventory@verizon.net
(Expert in invasive and native plants)

Sue Tantsits, owner
Edge of the Woods Native Plant Nursery
email: Sue.edgewoodsnursery@gmail.com

Muhlenberg Recycling/ Waste Reduction Recommendations Project
SUS 365
Spring 2016
With Dr. Heiman

With Oil prices falling, many recycling companies are having a hard time selling recyclables because it is now cheaper to make new products from oil vs. recycling old plastics. Muhlenberg's garbage and recycling companies are no exception, and while our waste service is still succeeding in recycling our recyclables they have noticed that we have a lot of contamination. Contamination of recyclables is when trash or food remnants are in the recyclable stream. Recycling companies will not sort through this material and contamination means that those recyclable products will be returned to the trash stream.

Previous work by this class and information from our trash collection service has shown that Muhlenberg has a lot of recyclables in the trash and seems to produce a lot of trash. Our trash service has provided us with estimates of the amount of trash we produce but cannot provide us with site specific quantitative data on trash amounts.

Our class will take on this problem by attempting to reduce our campus's total trash production. There are two ways to do this: 1) divert recycling from the trash into the recycling stream or 2) reduce the amount of trash produced. Your assignment will be to A) identify areas on campus that have the greatest potential for trash reduction and what specific types of trash are produced, B) identify if trash production is from failure to recycle and/or from trash production in general, and C) develop strategies to reduce trash production in targeted problem locations and/or across campus in general. These strategies can be focused on education, signage, or shifting location of recycling containers, etc. but all strategies must be geared toward the same goal of reducing trash production. You will be working with partners and will be presenting your findings and strategies to members of the Muhlenberg Greening Committee with the ability to put your ideas into action.

<u>Study Procedure</u>

- Class investigation of the fullness of all dumpsters on Campus with subsampling of types of trash, recycling amounts and targets for reuse or reduction.
- Gather data on contents of trash cans in each dumpster's location. At least 10 visual investigations of trash can contents/major building in each dumpster's catchment. You must ask permission if you look in private trash cans or non-public trashcans. Do your best to get a good representation of what is going on in each building by spreading your search locations out over the greatest area and location types. That a quick look and estimate of % of trash in specifics categories. Note any items that could be targets of waste reduction. Record the size, fullness, date, time of day and the location details for each trash can examined. We will practice this data collection prior to assigning building locations for each student. – Note you must collect your data prior to daily trash removal by our janitorial staff, and empty trash cans do not count as data points.
- Research best practices in trash reduction and apply research findings to strategies for Muhlenberg Campus.
- Present findings and ideas to Greening Committee.

Study Locations

- There are 14 dumpsters on campus; most of these dumpsters are 8 cubic yards. There is one trash compactor behind Seegers. Trash is picked up 3 times a week on M/W/F and recycling is picked up on T/Th. In all locations there is a recycling dumpster next to the trash dumpster.
- Muhlenberg has many academic/ administrative buildings, a sports complex and associated sporting locations such as the tennis courts, 16+ dorms and sorority houses, and many M.I.L.E. and faculty houses. Each of the dumpsters collect trash from multiple buildings and services on campus.

Project Grading

- 20% - Participation in dumpster dive and baseline trashcan content investigation – graded on quality of data and participation/completeness of data.
- 60% (draft 20%, final 40%) - Project write-up will include a draft and a final version. Draft should be double spaced, 12 pt font and between 7-10 pages. The draft and final papers should include at least 5 creditable references, at least 2 of which should be peer-reviewed. At least 2 of your references must be from outside the provided references. Use APA citation styles with (author, date) internal citations and a complete bibliography in the end of each report. Visit the following website for examples of how to cite using APA style https://www.library.cornell.edu/research/citation/apa . Each report should include tables and/or figures as part of the results that is references in the body of the results section. Each table or figures needs to be numbered sequentially and have a figure caption after the figure number.
    - Part one – Discuss past research on waste reduction specifically highlighting your specific area of reduction and any findings from other schools that might inform this investigation (done as groups of two).
    - Part two – Write-up of findings from our data collection and interpretation of those findings, highlighting focus areas for waste reduction (initial analysis done as a class – results sections for individual reports prepared in groups of two).
    - Part three – Detailed description of group strategy for waste reduction and rational for your given strategy. Include the likelihood of strategies success, requirements for success and associated challenges. Include a budget if appropriate and a timeline (done as groups of two).
- 20% - Presentation to Muhlenberg Greening Committee. Presentations will be done as partner pairs using a Prezi or Power Point style presentation. Each group will have 8-12 minutes to present followed by a Q and A session.

Project Important Dates

- Wed Feb 10th, 1-3:50pm: Muhlenberg College's Sustainability Coordination will introduce the project, practice trashcan investigation techniques
- Wed Feb 17th, 1-3:50pm: Dumpster Dive day
- Wed Feb 24th, 9:00am: Individual trash can data due to Dr. Heiman by email
- Wed Feb 24th, 1-3:50pm: In class analysis of data from trash cans and dumpsters – Determine best opportunities for trash reduction and assign to groups.
- Wed Mar 2nd, 1pm: Draft report due to Dr. Heiman by email
- Wed Mar 16rd, 1-3:50pm: Practice Presentations

- Mon Mar 21st, 1pm: Final reports due to Dr. Heiman by email
- Wed Mar 23rd 1-3:50pm: Present waste reduction strategies to Muhlenberg College's Greening Committee.

Readings and References (a place to start not the end point)
(See blackboard for PDFs)

- How to conduct a waste assessment on a campus: https://www.youtube.com/watch?v=jU8c6VCBo98
- UNC Campus Waste Stream Assessment
- Appalachian State University Waste Reduction Strategic Plan
- Cornell's Waste Reduction Website: http://www.sustainablecampus.cornell.edu/waste
- New York State's Waste Reduction Website: https://recycling.ncsu.edu/
- University of Iowa's 60% Waste Diversion Strategic Plan
- University of Louisville Material and Waste Reduction Strategic Plan
- Porter et al. (1995). Solid waste recovery. Env and Behavior.
- Ebreo and Vining (2001). How Similar are recycling and waste reduction? Env. and Behavior.
- De_Young, R. (1990) Some Psychological Aspects of Living Lightly, JES

Muhlenberg College

Local Sustainability (SUS 365)

Spring 2016

Instructor:

Name: Dr. Kimberly Heiman
Office: NSB 002
Email: kheiman@muhlenberg.edu
Phone: x 3965

Office hours: Mon 10-11am
Wed 9-10am
Fri 1-2pm
by appointment

Reading material:

All reading material for this class will be either posted on blackboard or handed out in class. I will post any lecture slides on blackboard after the lecture.

About the Course:

This course will explore environmental and sustainability issues using the Lehigh Valley as our model community. We will use scientific analysis, service learning projects, field trips, and in class activities. *The goals of this class are 1) for you to become scientifically literate about and engaged in issues of sustainability in general, and specifically those facing the greater Allentown area, 2) develop integrative learning skills necessary to contribute to making the Lehigh Valley a "greener" place to live, and 3) reflect on the importance of integrating multiple disciplines in be able to address sustainability and environmental issues.* You are expected to keep up-to-date with current events as well as venture out into the city to learn about sustainable initiatives and efforts. Because we will be exploring current issues facing the Lehigh Valley, there is no set schedule for this class and the syllabus is subject to change. We will be discussing and exploring topics as they occur. Be ready for a fast pace dive into local community issues.

Attendance:

Attendance is required to receive full credit for this class, as a significant part of your grade will depend on participation in classroom discussions, field trips, and group activities (further details below). You will only be allowed **2** absences; each additional absence will result in penalties to your final grade. Many of the field trips cannot be made up if missed. If you anticipate an absence please contact Dr. Heiman as soon as possible, occasionally there might be an alternative assignment that can be used in place of a missed field trip. **Course Unit Instruction** This class is scheduled to meet for 4 hours per week of classroom instruction, field trips, and laboratory activities.

Cheating:

The policy on cheating is in accordance with the Academic Integrity Code.
www.muhlenberg.edu/main/aboutus/dean-academic/integrity
Please review this document if you are not sure what constitutes cheating and plagiarism. If you should be caught cheating or plagiarizing, you may be given an "F" for the assignment or for the course**.**

Grading:
Your grade will be based the following graded assignments:

- Field Trip sustainability reflection journal 15 %
- Current Events 10 %
- Lab activities 15 %
- Muhlenberg Trash Reduction Project 30 %
- Parks as Ecosystems Project 30 %

Percentage: 100 - 90 = A to A- 89 - 80 = B+ to B-
79 - 70 = C+ to C- 69 - 60 = D
Below 60 = F

Assignment Details:

Field Trip Journal

After every field trip, you will be expected to produce a journal entry reflecting on how this field trip demonstrates, explores, informs, or illustrates sustainability issues in the Lehigh Valley. Each journal enter will be 2 pages long, 12 pts font, and double spaced. Questions that could be discussed in the journal entry may include the following:

1) Why did our Local Sustainability Class go on this field trip?
2) What types of sustainability issues are apparent during this field trip and how are they being addressed, if at all?
3) How could sustainability be enhanced?
4) Is the theme/ take home message of this field trip broadly applicable or only locally relevant? How do you know?
5) What unanswered questions do you have about the field trip and related themes?
4) What new concepts or fact did you learn from this field trip?
5) Did this field trip leave an impression on you, if so how?

Current Events

Most Mondays we will begin class with a discussion of current events. The class will be divided up into groups and each week a different group will be responsible for current events. On your designated days, please come to class with an article or news story about sustainability or environmental issues occurring in the greater Lehigh Valley. Provide one copy of the article. Then prepare a short presentation outlining the current event, this can be in power point or not but should be no longer that 5 minutes. Be prepared to discuss your current event with the class, being able to provide some information beyond what is contained in the article, specifically focuse on the science and social debate behind the issues. You will be graded on completion, participation, and the extent of the external information you provide for the discussion. Good places to start looking for current events include local news broadcasts (Channel 69); newspapers including the Morning Call (http://www.mcall.com) and Penn Live, (http://www.pennlive.com/green/), WDIY (http://wdiy.org), and Lehigh Valley Live (http://www.lehighvalleylive.com) ; non-profits such as the Wildlands Conservancy (http://wildlandspa.org), Friends of

Allentown Parks (http://allentownparks.org), and Clean Water Action (http://www.cleanwateraction.org/pa); and local agencies such as Allentown Parks and Recreation (http://www.allentownpa.gov/Government/DepartmentsBureaus/ParksandRecreation/tabid/112/Default.aspx).

Lab activities
Many of our Wednesdays will be devoted to activities such as evaluating the sustainability of local businesses, designing sustainably food plans on a budget, or looking into the feasibility of Allentown's current regional plans. Assignments attached to these investigations will be provided in class.

Muhlenberg Trash Reduction Project
Muhlenberg College produces a lot of trash and often contaminates our recycling stream with non-recyclables. This project will be conducted in collaboration with the Office of Campus Sustainability and Plant Operations. We will be investigating the amount and types of trash we produce and developing plans for waste reduction across campus. We will be collecting initial data at the dumpster and trash can level, researching past waste reduction efforts, and developing strategies for waste reduction for our campus. There is a report and presentation associated with this project. For further details see the project description document provided in class and on blackboard.

Parks and Ecosystem Educational Outreach Project
Allentown has many parks but rarely are these parks viewed as ecosystem by park users. This project will develop an educational module for K-8th graders to illustrate how Allentown's parks function as ecosystems. The educational module will be demonstrated at the Friends of the Allentown Parks's Annual Cherry Blossom Festival in April. The module will be written up and shared with our community partner. In addition to this, we will also be trying to educate various elected officials about the role parks play in ecosystems by writing a letter to an elected official as well as potentially presenting to various key stakeholders. For further details see the project description document provided in class and on blackboard.

Extra Help:
Students with documented learning disabilities should see me privately so appropriate accommodations can be made *prior* to the first assignment. Students with disabilities requesting classroom or course accommodations must complete a multi-faceted application/approval process through the Office of Disability Services prior to the development and implementation of an Accommodation Plan. Each Accommodation Plan is individually and collaboratively developed with the Directors or staff of the following Departments, as appropriate: Academic Resource Center, Office of Counseling Services, Student Health Services, and the Office of Disability Services. If you have not already done so, please contact the appropriate Department to have a dialogue regarding your academic needs and recommended accommodations, auxiliary aides, and services.

Schedule

This class is a Service Learning Course and will be built around two main community engaged projects, one with Muhlenberg and one with Friends of the Allentown Parks. Because this class works in our community and examines current and developing events, there is no set schedule. You will be provided with the topics, reading assignments, due dates, and field trip information in class an on blackboard. Events and assignment due dates that are set are listed below. Remember that this class is about current local events so this syllabus and schedule are subject to change. You will be notified in advance of any major modifications.

Muhlenberg Trash Reduction Project dates

Wed Feb 10th, 1-3:50pm:	Introduce the project
Wed Feb 17th, 1-3:50pm:	Dumpster Dive day
Wed Feb 24th, 9:00am:	Individual trash can data due
Wed Feb 24th, 1-3:50pm:	In class analysis of data
Wed Mar 2nd, 1pm:	Draft report due
Wed Mar 16rd, 1-3:50pm:	Practice Presentations
Mon Mar 21st, 1pm:	Final reports due
Wed Mar 23rd 1-3:50pm:	Present waste reduction strategies

Parks as Ecosystems Project dates

Wed, March 30th , 1- 3:50pm	Introduction to project and tour of Park Habitat
Wed, April 13th, 1pm	Project Proposal
Mon, April 25th, 1pm	Letter to Elected Official Due
Sun, April 24th, Time TBD	Park clean-up (opportunity for extra credit)
Wed, April 27th, 1 - 3:50pm	Practice delivery of educational modules
Sat April 30th, 10am -5:00pm	Present Ed. Modules – Cherry Blossom Festival
Mon, May 2nd, 1pm	Education instructions/materials due
Wed, May 4th, 1- 3:50pm	Presentation to Key stakeholders (Tentative)

Other Set Dates

Wed Feb 3rd, 1-3:50pm	Wegman's field trip for sustainable food plan development
Wed April 6th, 1-3:50pm	Restoration at Lehigh Gap Nature Center
Wed April 13th, 1-3:50pm	Tour and volunteer work at Rodale Organic Farm

Request for Integrative Learning (IL) Designation

Please complete this form and email it to the chair of CC, Paul Meier at paulmeier@muhlenberg.edu, along with email confirmation from all associated facilitators and department chairs.

Type of IL Experience: ___Service-Learning (Community Engaged) Course____
(e.g., team-taught course, linked courses, MILA course, course linked to production, course linked to Center for Ethics, service learning course, etc.)

Facilitator 1: _____Kimberly Heiman_____

Course Number & Name: ___Local Sustainability, SUS 365 _____

Facilitator 2 (optional): ___ Karen El Chaar – Executive Director, Friends of the Allentown Parks (Community Partner) also Kalyna Procyck, Muhlenberg College's Sustainability Coordinator (Community Partner)___

Course Number & Name (if applicable): _____n/a_____

(If there are more than two facilitators, please list them on a separate sheet.)

IL Experience Title (if applicable): _____n/a_____
(for IL experiences which include more than one rosterable course; e.g., linked courses)

Catalog Description of the Experience

[If linked course, also include catalog descriptions of both courses.]

Please note this is how the course description currently reads in the catalog. I have not updated the description below but can if CC deems an update appropriate.

This course will take an interdisciplinary approach to analyzing sustainability at the local level, specifically looking at communities in the Lehigh Valley, and will explore human-environment issues within the context of the relationship among individuals, institutions, and ecology. This

course focuses on teaching students science as a way of knowing by exposing them to the fundamental scientific process of observation, questioning, and testing; emphasizing data analysis and interpretation; as well as developing explanations for environmental phenomena based on observations. Students will explore the state of environmental resources in the Lehigh Valley through directed reading of scientific research and local management plans, hands-on field activities, and observations of human modified environments. The class will culminate with student designed individual research projects, in which students will scientifically assess current sustainability efforts and develop recommendations for future projects. Research projects may include surveying community members about perceptions and attitudes towards sustainability and environmental issues, assessing feasibility and scientific merit of enhancing ongoing or initiating new sustainability efforts, or compiling and analyzing information on sustainability resources to be applied to ongoing environmental restoration or protection initiatives. Priorities for research will be determined in collaboration with community partners, and results and recommendations will be shared.
Prerequisite: Any single course in the Sustainability Studies minor
Meets general academic requirement SC.

Please answer the following making specific reference to the academic learning goal and criteria for meeting the IL designation:

1. Explicitly identify what perspectives are being integrated in an intentional way, sustained throughout the experience. [Criteria 1 & 4]

Sustainability, like other interdisciplinary fields of study, requires students to integrate multiple disciplinary specific ways of knowing to understand the problems and solutions at the heart of the subject. Specific perspectives that are integrated into this course's content include biology/ecology, political science through discussion of environmental policy, and natural resource management through discussion of social and political priorities and management decision-making processes (Criteria 1). Depending on the service learning project, we occasionally introduce educational and communication methodologies to shape outreach related deliverables. Each week there is a small integrative project or experience that developed student's skills and over the course of the semester students participate in two community engaged projects each of which last around 6-8 weeks (Criteria 4).

2. Teaching IL: Briefly describe how you intend to incorporate sustained, intentional integrative learning into this experience. Note that experiences carrying the IL designation need to have as a core focus developing the skill of Integrative Learning. In what kinds of activities will the students participate to make visible

the integrative learning that is taking place, including student self-reflection? [Criteria 1 & 3]

The main structure of this course is through field trips and experiential learning. Once a week, there is a one hour lecture/discussion class that introduces students to key sustainability topics. Much of the reading for these class periods is background scientific articles as well as policy and management documents, providing the globally relevant context integrated background for local examples. The second meeting each week is a field trip where students are asked to apply their developing integrated knowledge to real world situations. For example when we take our first field trip into Cedar Creek Park we have talked about what an ecosystem is, what services ecosystems are, and how urban parks can contribute to local ecosystem health. When we go to the park, we see examples of all of the above, but also talk about the role of parks in urban planning, social benefits of green spaces, observe how people use the park, and then reflect on how this informs our understanding of parks as components of ecosystems and communities. At the end of each field trip, students have to reflect on how their field trip enhanced their understanding about various class topics, specifically highlighting how integration of various disciplinary within sustainability were evident during the experience and how understand of key topics is enhanced by considering the experience through multiple lenses (Criteria 1, 3 and 4). This class usually does 8-10 field trips in a semester. Other field trip locations have included Air Products – Sustainability in business; City Center Allentown – Urban redevelopment with an eye toward sustainability; Allentown's Waste Water Treatment Plant – Resource and waste management and ecosystem impacts; Public Meeting for Park redevelopment – Urban Planning and ecosystem integrity, and L'il Lehigh Trout Nursery – Carrying Capacity and sport fishing demand. These field trip are moments for student to practice integration and see the multifaceted complicated situations in our local community. These field trip are invaluable to advancing integrative learning which will be honed in the sustained service-learning projects discussed below. Without these field trip and the accompanying reflection on the enhanced understanding achievable thought viewing each trip from various ways of knowing students would not be prepared to take on their service learning projects.

In addition to the field trip component of this course, student conduct two service-learning/ community engaged projects that require them to apply their developing understanding of sustainability to real world situations. One of our community partners is Friends of the Allentown Parks and the other is Muhlenberg's own Office of Campus Sustainability. I will discuss these partnerships in greater detail below. The overall goal of these community engagements is to experience the messiness of real world challenges and realize that their ability to contribute to solutions is enhanced when students are able to integrate multiple ways of knowing into proposed solutions (Criteria 1, 2, 4). All service learning project have

an element of student design and go through drafting phrased where integrative learning is highlighted and refined.

3. Assessing IL: Briefly describe the kinds of projects or assignments students will undertake. What are the expected product(s) that will demonstrate successful integrative learning? How will students reflect critically on the integration they've achieved? These may be traditional assignments or they may take alternative forms but they must be assessable. [Criteria 2 & 3]

In addition to the basic structure of the class (field trip and reflection journals discussed in above (Criteria 3)), the students also engage in two service-learning projects. One of these projects serves the sustainability mission of Muhlenberg. I work closely with Muhlenberg's Sustainability Coordinator (Kalyna Procyck) to design and implement this project. The other community partner is Friends of the Allentown Parks (Karen El Chaar –Executive Director) and our projects focus on enhancing this organization's mission to "making a great park system greater". In both of these service learning partnerships, I work closely with my service learning partners to develop project that can integrate and apply class knowledge to real world problems while enhancing the mission of our partners. The community partners attend multiple classes and review student draft project. They present their hopes for student projects from their points of view which are often from a resource management and outreach prospective, not the ecological perspective which I bring to the conversation. Students work in small groups to design their projects in consultation with me and the community partner, these projects often include gathering data, interpreting results, and making recommendations. These projects require students to integrate multiple ways of knowing to analyze and produce recommendations for our community partners. Without this active integrative element the projects would not be successful. Feedback is provided throughout project research and development to heighten integration and project outcomes. Students present their finding to the community partners and turn in final reports. Many of the student projects have eventually been implemented at Muhlenberg (e.g. new color coded trash bags in ensure better recycling by housekeeping), or in Allentown's Parks (e.g. restoration of Muhlenberg Island and areas in Trexler Park with native plants and bird habitats). The specifics of each project differ from year-to-year but the central pedagogical focus of these projects is to have students integrate the various ways of thinking to solve real word problems. For example, you can't solve Muhlenberg College's poor recycling problem without understanding why recycling is necessary from an environmental perspective, conducting IRB approved interviews of students, faculty, and staff about their knowledge and use of recycling info-structure, and then collecting data on current uses of those facilities using a scientifically sound sampling strategy. Similarly, students can't work on plans for restoring section of Allentown's parks, without understand the ecology of urban parks, how

people utilize and value parks as green space, how to teach the public to value any restoration efforts, and the limitations of how Parks and Recreations Department can maintain any proposed park enhancements (Criteria 2).

Please attach a syllabus or tentative description of the course(s) or experience with learning goals and a proposed reading list. At least one of the learning goals should relate directly to IL criteria, definition, and learning goals.

I have attached a syllabus and sample assignment description for past the service learning projects.

Please sign below to indicate approval or send approval via email.

_____ 9/19/2017___
Facilitator 1 Date

9/20/17
_____ _____
Department Chair 1 Date

_____n/a_____ _____
Facilitator 2 (if applicable) Date

_____n/a_____ _____
Department Chair 2 (if applicable) Date