

Course Syllabus for Fall Term 2016

**ENVS 404: Urban Environments – Speaking About Lead in West Philadelphia (ABCS requirement)**

**Tuesdays and Thursdays @ 10:30 – 11:50 am**

Hayden Hall 358

**Professors:** Richard Pepino & Catherine Klinger-Kutcher

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**Office Hours (Pepino):** TU & TH noon to 1PM, By appointment on

Friday; **(Klinger):** TU & TH 9AM-10:30AM

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**Overview:**

Despite the fact that lead has been removed from most products such as paint and gasoline, at least 250,000 children nationally aged newborn-6 years old have elevated blood lead levels (eBLLs) according to the Center for Disease Control (CDC) estimates. The local incidence of lead poisoning declined over the last 10 years, but thousands of Philadelphia children still have elevated blood lead levels (eBLLs). The PA Department of Health 2011 data list 936 children not meeting the current CDC diagnostic standard (10µg/dL) and 4670 not meeting the updated 2011 revised referenced standard (5ug/dL) for childhood lead poisoning. Philadelphia ranks third in the country with about 3.8 % of the children with eBLLs counts. Most at-risk are low income children living in poorly maintained homes built before the 1978 ban on lead based paint for residential use was mandated. According to the Philadelphia Health Department, there are currently about 1,400 homes with dangerous levels of lead paint chips and dust awaiting cleanup in the city, along with an additional 100,000 likely candidate homes for lead exposure that have never been assessed. Lead poisoning can cause learning disabilities, impaired hearing, behavioral problems and at very high levels, seizures, coma and even death. Young children are especially at risk because of their developing systems. They often ingest lead chips, dust, and dirt while playing in their home and yards and this exposure can result in cognitive impacts that may become a significant lifetime burden to the child and society. As we learn about the adverse public health impacts from lead poisoning, we will begin to understand the underpinnings of this disease's etiology, which often selects the most vulnerable populations for its primary targets. In ENVS 404, students learn about the epidemiology of lead poisoning, the pathways of exposure, and methods for community outreach and education. As an Academically Based Community Service (ABCS) course, Penn students will collaborate with school teachers in West Philadelphia to engage students in lessons that apply environmental research relating to lead poisoning to their homes and neighborhoods. This outreach effort is intended to increase understanding of the risks that lead exposure creates to their families, especially younger siblings, and to raise awareness of this important public health challenge in the West Philadelphia community.

**Structure:**

This seminar consists of lectures, readings, student presentations, group work, discussions, research, and community service. For the community service portion of the course, students are required to:

- As part of a group, teach six lessons on childhood lead poisoning in public school classes in West Philadelphia.
- Collect and analyze soil and dust samples from local areas of interest (as defined by the professors) to contribute to a database on West Philadelphia lead hazard exposure and soil lead content.

**Objectives:**

1. To facilitate comprehension and evaluation of environmental science and public health issues, especially childhood lead poisoning in the West Philadelphia community.
2. To provide opportunities for improving and practicing presentation and communication skills in several different situations.
3. To incorporate group fieldwork collecting and analyzing lead soil samples into a larger study of lead distribution in West Philadelphia.
4. To deliver student lectures and encourage class discussion that can be adapted into lessons and learning activities for urban youth.
5. To present classes and discussions on lead poisoning prevention with at-risk populations, as well as to encourage conceptual thinking about environmental health among the target audience.
6. To support the research, writing, and presentation of a problem-oriented research paper.

**Requirements and Grading:**

This course is a seminar and focuses primarily on presentations and discussions. Because this course features experts from medical, social and regulatory professions with limited availability, **attendance is**

**mandatory** and **preparation** and **participation** is expected.

- Classes begin promptly at 10:30 am.
- Absences or lack of participation in class will contribute to a lower grade.
- You will be expected to discuss *at least* the required readings and lead lesson plans on the dates for which they are assigned.
- More than two unexcused absences from class will adversely affect the student's final grade. Requests for an excused absence must be emailed to the TA in advance.
  - **The Community Service time requirement outside of class is a minimum of 6 hours of teaching plus travel and preparation time. No absences from teaching lessons are permitted or excused.**
  - The course is affiliated with Communication Within the Curriculum (CWIC) and oral presentations are an integral part of the curriculum. Meetings with the CWIC advisor are a requirement of the course.

- All written assignments and PowerPoint presentations must be submitted electronically by uploading it to the Canvas page under "Assignments" by NOON on the due date, unless otherwise noted. All written assignments must also be submitted in hard copy to the instructor at the beginning of class on the due date.

### **Assignments (70%):**

- **Quiz on public health impacts of childhood lead poisoning (15%): TH, October 13:** The quiz will include the history of lead poisoning from an occupational diagnosis to an array of public health research that has led to a significant lowering of elevated blood lead standard. Also, an understanding of the political, social and policy underpinnings that remain unaddressed and continue to place vulnerable populations at significant risk.
- **Participation and assigned readings (10%):** The list of required and suggested readings will be distributed and posted on Canvas (<https://canvas.upenn.edu/>) along with assignments and community service updates. Your familiarity and analysis of the assigned articles during class discussion will form the basis for this portion of the grade. This portion of your grade is also affected by timely production of graded and non-graded assignments, such as the research topic proposal and community service reflection.
- **Written Assignment: International Heavy Metal Recalls (10%): TU, Nov 1:** Research the current status & recent history of heavy metals contamination in product recalls originating internationally and ending up in the US. Specific questions will be distributed; present your findings and analysis in a 3-page paper. Come prepared to discuss your recall in class on the assigned date.
- **Individual Oral Presentation – Research Project (15%): TH, Nov 17 – TU, Dec 6:** Deliver a formal 15-minute presentation outlining your thesis, background research, analysis, conclusions and recommendations. **Meeting with the CWiC advisor is required prior to giving this oral presentation.** Appropriate use of PowerPoint slides and evidence of substantive research will be factors considered in the grading. Students presenting before Thanksgiving break may spend more time during the presentation explaining the background research, and are expected to have only preliminary analysis and conclusions.
- **Written Assignment – Research Paper (20%): FR, December 16 at NOON:** Select any topic or problem related to lead. The professor via the submission of 1-page **(DUE: TH, Nov. 10)** research topic proposal must approve topics in advance. Conduct research and write a 12-15-page problem-oriented research paper. The paper will be due on Friday, December 16 at noon. Use MLA documentation style for citations and works cited (a useful MLA guide through Penn Libraries): <http://gethelp.library.upenn.edu/PORT/documentation/documentation.html>

### **Community Service (30%):**

1. **Classroom Teaching (15%):** In a group, teach one 1-hour class per week for 6 weeks about lead poisoning prevention to a fifth, seventh or ninth grade class at a local school. The classes will occur during the school day and will meet at the same time and day every week. A variety of available lesson times will be offered; students are expected to teach one per week, during days when both Penn and SDP are in session (i.e. no vacations). **The Community Service time requirement outside of class is a minimum of 6 hours plus travel and preparation time. No absences will be permitted or excused.** Evaluation will be based on attendance as well as feedback from the teachers, the public school students, and the TA.
2. **Fieldwork – Lead Study (15%): Presentations on Nov 8 (TU) & 10 (TH):** In teams of four or five students, sample the soil of assigned areas in West Philadelphia and analyze the samples using the x-ray fluorescence instrument. Grades will be based on a 12-minute presentation of the findings that should describe the sampling protocol, the XRF results, the analysis, consideration of other factors and conclusions. Pictures, graphs, and maps contribute to a successful presentation.
3. **Written Assignment – Reflection, due December 16th at NOON:** This is a 3-4 page reflection paper on the community service experience. This is an informal writing assignment. Some questions to consider: What were your expectations? How did the experience compare to your expectations? What were the challenging and rewarding aspects of this experience? This is not graded, but must be produced in order to receive a final grade in the course.

**Policy on Accommodations for Disability:** Students who seek an accommodation for a disability should refer to the “Disability Accommodation” policy found on the UPenn Website under “Policies and Guidelines” and “Student Support Services and Organizations”. Because documentation is required and will be reviewed thoroughly, students are advised to request accommodations early in the semester.

<b>Date</b>	<b>Topic</b>	<b>Speaker</b>	<b>Assignments &amp; Readings:</b>
TU 8/30	Intro & History of Lead	Pepino	Readings posted under "Modules"
TH 9/1	Lead in Philadelphia	Klinger	Readings posted under "Modules"
TU 9/6	Case Study: Flint, MI	Pepino	Readings posted
TH 9/8	Toxicology and Human Health	Klinger	Readings posted under "Modules"
TU 9/13	Children’s Health	Dr. Goldstein, St. Chris’ Hospital	Krieger Case Study; Readings posted under "Modules"
TH 9/15	Netter Center: Community	Regina Bynam	Netter Center; Readings

	Based Education	and Jenny Bae	posted under "Modules"
TU 9/20	Risk Assessment: Sampling in West Philadelphia	Pepino	Readings posted under "Modules"
TH 9/22	Environmental Justice	Nan Feyler	Readings posted under "Modules"
TU 9/27	Teaching in West Philadelphia	Pepino	Readings posted under "Modules"
TH 9/29	Lead in Drinking Water	Lisa Donahue, EPA	Readings posted under "Modules"
TU 10/4	Healthy Homes Model: Policy & Practice	Klinger	Readings posted under "Modules"
TH 10/6	<b>Fall Break</b>	<b>No Class</b>	N/A
TU 10/11	Radiation Safety	Jim Sillhart	Readings posted under "Modules"
TH 10/13	<b>Quiz In Class</b>	N/A	N/A
TU 10/18	Lead in Lancaster, PA	Dr. Howarth	Readings posted under "Modules"; Select country for Recall Assignment (Post in Discussion on Canvas by this day)
TH 10/20	Global Lead Exposure: Electronic Waste	Klinger	Readings posted under "Modules"
TU 10/25	Product Recall Discussion	Part I	
TH 10/27	Product Recall Discussion	Part II	
TU 11/1			<b>International Heavy Metal Recalls Paper DUE</b>
TH 11/3	1-on-1 meetings with professors to discuss specific projects	Klinger/Pepino	
TU 11/15	<b>Group Fieldwork Presentations</b>	Groups (2)	
TH 11/17	<b>Group Fieldwork Presentations</b>	Groups (3)	
TU 11/15	Course Summary		
TH 11/22	<b>Student Presentations - Research Project</b>	(4)	
TU 11/29	<b>Student Presentations - Research Project</b>	(5)	
TH 11/24	<b>Thanksgiving</b>	<b>No Class</b>	
TU 11/29	<b>Student Presentations -</b>	(5)	

	<b>Research Project</b>	
TH 12/1	<b>Student Presentations - Research Project</b>	(5)
TU 12/6	<b>Student Presentations - Research Project</b>	(5)
TH 12/8	<b>Student Presentations - Research Project</b>	(5)
FRI 12/16	<b>Research Papers (20% of grade) and Service Reflection due at NOON</b>	

Course Summary:

<b>Date</b>	<b>Details</b>	
Wed Sep 14, 2016	<a href="#">ABCS Clearance Completion</a>	due by 10:30
Tue Sep 20, 2016	<a href="#">EXTRA CREDIT ASSIGNMENT 9/15/16</a>	due by 10:30
Thu Oct 13, 2016	<a href="#">Quiz on Public Health Impacts of Childhood Lead Poisoning</a>	
Tue Oct 18, 2016	<a href="#">CEET/SRP Seminar Extra Credit</a>	due by 10:30
Tue Nov 1, 2016	<a href="#">International Heavy Metal Recalls Paper due</a>	due by 10:30
Thu Nov 10, 2016	<a href="#">Research Paper Proposal</a>	due by 10:30
Thu Nov 17, 2016	<a href="#">Presentations 11/15 &amp; 11/17; Fieldwork: Lead Study</a>	
Tue Dec 6, 2016	<a href="#">Extra Credit - Health Impact Project</a>	due by 10:30
Thu Dec 8, 2016	<a href="#">Individual Oral Presentation on Research Project</a>	
	<a href="#">ABCS Written Reflection</a>	due by 12:00
Fri Dec 16, 2016	<a href="#">Final Research Paper</a>	due by 12:00
	<a href="#">Participation</a>	due by 12:00

**Date****Details**[Classroom Placements](#)[Extra Credit Total](#)[Lead xtra](#)[Teaching Times](#)**Prev monthNext monthMay 2017**

Calendar

<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
30Previous month	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25Today	26	27
28	29	30	31	1Next month	2Next month	3Next month
4Next month	5Next month	6Next month	7Next month	8Next month	9Next month	10Next month

**Assignments are weighted by group:**