

# Course Syllabus

**ENVH 417 (Spring 2016, 3 credits)**

**Course Title:** Case Studies in Children's Environmental Health Disparities

**Course Times:** T/TH, 1:30-2:50 pm

**Course Location:** RR 134

**Instructor:** Catherine Karr MD PHD

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TA Office Hours: by appointment

**Catalog Course Description:** This course introduces students to the ways in which children are disproportionately affected by environmental health hazards. Through a series of engaging case studies, students learn the core scientific concepts of children's environmental health while exploring the social, cultural, regulatory, political, and economic factors that lead to children's health disparities.

**Syllabus Course Description:** This course provides students with an in-depth introduction to the many ways in which children are disproportionately affected by environmental health hazards. Through a series of four engaging case study-based modules, students are introduced to the core concepts of children's environmental health in a multidisciplinary context that emphasizes the foundational scientific principles of exposure assessment and toxicology, as well as the social, cultural, regulatory, political, and economic factors that can lead to disparities in exposures and health impacts for children. All case studies are based on real life scenarios of children in both the developing and developed world. Carefully crafted activities and assignments provide opportunities for students to identify, evaluate, and synthesize scientific information related to children's environmental health, describe policy and regulatory approaches to reducing hazards, and recognize stakeholders' varied perspectives on the issue. Coursework is designed to develop proficiency in communicating with a variety of audiences about children's environmental health disparities and possible solutions.

**Diversity requirement:** This course is an approved DIV course to fulfill the undergraduate diversity requirement.

**Prerequisites:** none

**Learning Objectives** – Upon completing the course, students will be able to:

1. Describe the core concepts of environmental health (toxicity, exposure, susceptibility, risk, and prevention) and apply them in new contexts.
2. Identify the characteristics of children that make them uniquely vulnerable to environmental hazards and contribute to health disparities.
3. Describe the effects of certain key pollutants on children.
4. Locate, organize, and synthesize information about children’s environmental health problems in the context of real world situations.
5. Characterize children’s environmental health disparities nationally and globally in biological, cultural, political, socioeconomic, public health and health care contexts.
6. Describe regulatory, policy, and programmatic approaches to reducing children’s exposures to environmental health hazards.
7. Effectively communicate about children’s environmental health concepts to key audiences.

**Course Overview and Format:** This course is designed to facilitate student-centered, active and investigative learning. Case-based instructional strategies are used to introduce and explore the core concepts of children’s environmental and apply these concepts to realistic situations, with an emphasis on the concept of health disparities as it applies to children. Through the lens of the four case-based modules, students develop a framework for identifying and applying environmental health concepts to child health issues and to identification of susceptible populations disproportionately affected. The course requires students to be actively engaged in their learning and class time is used with a mix of didactics, discussions, student led presentations, and group problem solving.

The content of the course is organized around four hazard-based modules, each of which follows a consistent format. The final module will be shortened to one week to accommodate end of quarter student presentations:

<b>TYPICAL OUTLINE FOR A TWO WEEK MODULE</b>	
<b>Session 1</b>	<b>Facts &amp; Foundations:</b> Instructor-led session focusing on assessing students’ comprehension of assigned readings and viewings and building on these by presenting additional information, cases and examples that help students develop more sophisticated or nuanced conceptual understandings. May include some small group work on focused problem sets, discussion questions, ethical issues, etc.

<b>Session 2</b>	<b>Academic Paper #1</b> Review and Whole-Class Discussion. <b>Introduction to the Case Study</b> , including identifying stakeholder groups and instructor introduction to a research project proposal, intervention strategy, or policy change related to the case study that the stakeholders will be asked to debate and vote on in session 3.
<b>Session 3</b>	<b>Stakeholder Debate Activity</b> (small groups, two step process)
<b>Session 4</b>	<b>Academic Paper #2</b> Review and Whole-Class Discussion. <b>Communication Product Critique</b> (small group activity).

**Course Requirements:** Each student will be expected to:

- Prepare for each class session by completing the items noted on the homework assignment page for each session. This includes assigned readings, watching assigned videos, and completing related assignments/quizzes.
- Participate actively in class discussions and activities
- Engage in stakeholder debate role-plays for each of the four case modules.
- Work effectively in the group Final Project including preparation and delivery of a component of the group presentation and involvement in the group development of a policy brief and public facing communication product.
- Reflect on the impact of the course experience and content on their lives going forward.

Textbook (optional): *Children’s Environmental Health*. Landrigan & Etzel, eds. Oxford University Press. 2014. A copy will be placed on reserve in the Health Sciences Library. Other required readings will be provided on the Canvas Site.

Preparing for Class: Reading and viewing assignments for each class session will be available through the course Canvas pages. These will include both **assigned and suggested readings and video materials**, such as scientific articles, reports and educational products from both governmental and non-governmental organizations, textbook chapters, online modules, and instructional videos.

Homework Assignments: Each class session has **homework assignments** that are organized as introductory material (week 1) or by the four case study modules. These homework pages are posted on the catalyst site. Homework assignments include short quizzes and reflections on the assigned readings/viewings described above.

Student Group Projects: A multi-component group project on a selected children's environmental health problem will include: **a policy brief, public facing communication product, and lightening brief presentation**. These will be due/presented during the last week of the quarter (week before finals week). Groups of 4 students will be assigned by the instructor in week 3 with an effort to include student diversity of academic programs/previous experience. Topics must be an area/issue of children’s environmental

health that was not the core focus of the case study modules. An example list of topics is provided on canvas. Student groups may choose an issue not on the list with permission of the instructor. All group topics/issues must be distinct (no repeats). Groups must submit topic ideas in week 5.

- **Policy Brief.** The policy brief should be 2 pages max. Guidance on writing an effective policy brief are provided in Canvas and can be found here -[http://www.jhsph.edu/research/centers-and-institutes/womens-and-childrens-health-policy-center/de/policy\\_brief/index.html](http://www.jhsph.edu/research/centers-and-institutes/womens-and-childrens-health-policy-center/de/policy_brief/index.html) (Links to an external site.). The Brief should include the following components: Aim, “Hook”, Background Information, Supportive Data, Options/Recommendations.
- **Lightening brief presentation** of the policy brief. This will a 10 minute ppt style presentation with each of the four group members covering a specific chunk of content in 2.5 minutes and 2 or 3 slides.
- **Public facing communication product.** This can be in the form of a pamphlet, factsheet, poster, radio/TV vignette/campaign or op-ed for a specified audience or stakeholder group.

Student Stakeholder Debate: Students will work in small groups to debate a predetermined research project proposal, intervention strategy, or policy change related to the case study. The **in-class stakeholder debate** activity will have two parts. First, students are put into small groups and each group is given a stakeholder type to research and develop a perspective statement for (i.e. pros and cons of the proposed plan and whether the stakeholder supports it, opposes it, or supports a revised version of it). Next the groups will be reorganized so that each small group includes a representative from each of the stakeholder groups. Each group member will share his/her perspective, then the group will try and come to consensus on a recommendation to support the plan, oppose it, or support it with modifications. The class session will culminate with each group sharing their outcome and a follow-up discussion based on students’ experience of the process.




Student End of Course Reflection: Reflect on how you think the course content and experience will impact your life and your understanding of the world around you (1 page), as well as how you feel their group functioned and what you learned from the experience of working with this particular group of students (1 page)



**Student Evaluation:** Course grades will be based on:



- 40% Homework assignments/class participation
- 15% Group oral presentation
- 15% Group communication product
- 15% Group policy brief
- 15% Reflection

**Course Outline:** The first week of the course will include introductory material and background in preparation for case-based discussions and activities in the remaining weeks. All sessions will be led by

the course instructor/TA with the following exception. There will be a break in the routine format for class on April 12, 2016 and April 14, 2016 to accommodate guest presentations.

<b>Introductory Sessions</b>		
<b>Week 1: March 29, 31</b>		
<p><b>Session 1</b> <b>Tuesday</b> <b>March 29</b></p>	<ul style="list-style-type: none"> <li>• Introductions and review of students' backgrounds and interests.</li> <li>• Review of class policies, procedures, expectations, and norms.</li> <li>• Concept Mapping.</li> <li>• Video: <a href="#">Little Things Matter: The Impact of Toxins on the Developing Brain</a> (Links to an external site.)</li> </ul> <div style="text-align: center; margin-top: 20px;">  </div>	
<p><b>Session 2</b> <b>Thursday</b> <b>March 31</b></p>	<ul style="list-style-type: none"> <li>• Introduction to the core concepts of Children's Environmental Health</li> </ul>	<p><b>Required Reading</b> <b>1:</b> ATSDR Principles of Pediatric Environmental Health (Link: <a href="#">ATSDR Principles of Pediatric EH.pdf</a> )</p> <p><b>Take Quiz:</b> <a href="#">Assignment 1: ATSDR Principles of Pediatric Environmental Health Quiz</a></p> <p><b>Required Reading</b> <b>2:</b> Read one indicator in EPA America's Children &amp; the Environment (Link: <a href="#">EPA ACE Report III 2013.pdf</a> )</p> <p><b>Take Quiz:</b> <a href="#">Assignment 2: Topic Selection from</a></p>

		<p>"Americas Children and the Environment" Report</p> <p><b>Prepare to share</b> info on one indicator in class.</p>
<b>Module 1: Children in a lead battery recycling village in Vietnam (lead)</b>		
<b>Week 2: April 5, 7</b>		
<p><b>Session 3</b> <b>Tuesday</b> <b>April 5</b></p>	<ul style="list-style-type: none"> <li>Facts &amp; Foundations – lead</li> </ul>	<p><b>Required Reading 3:</b> World Health Organization (WHO) Childhood Lead Poisoning Booklet (link: <a href="#">WHO Childhood Lead Poisoning Booklet.pdf</a> )</p> <p><b>Take Quiz:</b> <a href="#">Assignment 3: WHO Childhood Lead Poisoning Booklet Quiz</a></p> <p><b>Required Reading 4:</b> “Lead” section of EPA America's Children &amp; the Environment (beginning on page 118, link: <a href="#">EPA ACE Report III 2013.pdf</a> )</p> <p><b>Submit response</b> to reflection question: <a href="#">Assignment 4: U.S. EPA America's Children and the Environment (ACE) Reflection Quiz</a></p>
<p><b>Session 4</b> <b>Thursday</b> <b>April 7</b></p>	<ul style="list-style-type: none"> <li>Lead Module Academic Paper #1 (Braun 2006)</li> </ul>	<p><b>Required Reading 5: Academic Paper 1</b> - Braun 2006</p>

	<ul style="list-style-type: none"> <li>Case Study Introduction &amp; <a href="#">Pure Earth's (Blacksmith Institute) Video on Lead Poisoning in Vietnam</a> (Links to  an external site.)</li> <li>Stakeholder identification</li> </ul>	<p>(link: <a href="#">Braun 2006.pdf</a>  )</p> <p><b>Complete</b> reading questions in <a href="#">Assignment 5: Module 1 (Lead) - Academic Paper #1 (Braun 2006) Quiz</a></p> <p><b>Group assignments announced</b></p>
<b>Special Presentations Week</b>		
<b>Week 3: April 12, 14</b>		
<b>Session 5 Tuesday April 12</b>	<ul style="list-style-type: none"> <li>Special Presentation – Science to Policy in Children’s Environmental Health. Sheela Sathyanarayana MD MPH, UW Pediatrics/DEOHS</li> </ul>	
<b>Session 6 Thursday April 14</b>	<ul style="list-style-type: none"> <li>Special Presentation – Communication in Public Health Practice Kristin Pace, Seattle King County Public Health</li> </ul>	<b>Topic selection for group project due April 15</b>
<b>Module 1 continued: Children in a lead battery recycling village in Vietnam (lead)</b>		
<b>Week 4: April 19, 21</b>		
<b>Session 7 Tuesday April 19</b>	<ul style="list-style-type: none"> <li>Stakeholder debate</li> </ul>	<b>Review</b> last class ppt on case study
<b>Session 8</b>		<b>Read</b> Wright 2008

<p><b>Thursday</b> <b>April 21</b></p>	<ul style="list-style-type: none"> <li>• Lead Module Academic Paper #2</li> <li>• Review and Whole-Class Discussion.</li> <li>• Communication Product Critique (small group activity).</li> </ul>	<p><b>Complete</b> reading questions</p> <p><b>Review</b> provided communication product examples.</p> <p><b>Find</b> one to bring/share/discuss in class</p>
<p><b>Module 2: Mexican-American farm worker children in eastern WA (pesticides)</b></p>		
<p><b>Week 5: April 26, 28</b></p>		
<p><b>Session 9</b> <b>Tuesday</b> <b>April 26</b></p>	<ul style="list-style-type: none"> <li>• Facts &amp; Foundations - pesticides</li> </ul>	<p><b>Read</b> Roberts JR. 2012</p> <p><b>Complete</b> reading questions</p>
<p><b>Session 10</b> <b>Thursday</b> <b>April 28</b></p>	<ul style="list-style-type: none"> <li>• Pesticides Module Academic Paper #1</li> <li>• Case Study Intro</li> <li>• Stakeholder Identification</li> </ul>	<p><b>Read TBD</b></p> <p><b>Complete</b> reading questions</p>
<p><b>Week 6: May 3, 5</b></p>		
<p><b>Session 11</b> <b>Tuesday</b> <b>May 3</b></p>	<ul style="list-style-type: none"> <li>• Stakeholder debate</li> </ul>	<p><b>Review</b> last class info on case study</p>
<p><b>Session 12</b> <b>Thursday</b> <b>May 5</b></p>	<ul style="list-style-type: none"> <li>• Pesticides Module Academic Paper #2</li> <li>• Review and Whole-Class Discussion.</li> <li>• Communication Product Critique (small group activity).</li> </ul>	<p><b>Read TBD</b></p> <p><b>Complete</b> reading questions</p> <p><b>Review</b> provided communication product examples.</p>



		<b>Submit</b> Draft of policy brief/communication product for final project by May 6
<b>Module 3: Children with asthma in a low income housing unit in Seattle (air pollutants)</b>		
<b>Week 7: May 10, 12</b>		
<b>Session 13</b> <b>Tuesday</b> <b>May 10</b>	<ul style="list-style-type: none"> <li>Facts &amp; Foundations – air pollutants &amp; asthma</li> </ul>	<b>Read</b> HUD 2012 <b>Complete</b> reading questions
<b>Session 14</b> <b>Thursday</b> <b>May 12</b>	<ul style="list-style-type: none"> <li>Academic Paper #1 - air pollutants/asthma</li> <li>Case Study Intro and Stakeholder identification</li> </ul>	<b>Read TBD</b> <b>Complete</b> reading questions  <b>Comments returned to groups re: project drafts May 13</b>
<b>Week 8: May 17, 19</b>		
<b>Session 15</b> <b>Tuesday</b> <b>May 17</b>	<ul style="list-style-type: none"> <li>Stakeholder debate</li> </ul>	<b>Review</b> last class info on case study
<b>Session 16</b> <b>Thursday</b> <b>May 19</b>	<ul style="list-style-type: none"> <li>Academic Paper #2 – air pollutants/asthma</li> <li>Review and Whole-Class Discussion.</li> <li>Communication Product Critique (small group activity).</li> </ul>	<b>Read TBD</b> <b>Complete</b> reading questions <b>Review</b> provided communication product examples. <b>Find</b> one to bring/share/discuss in class

**Module 4: Fish consumption among Alaskan native pregnant women  
(mercury)**

**Week 9: May 24, 26**

<p><b>Session 17</b> <b>Tuesday</b> <b>May 24</b></p>	<ul style="list-style-type: none"> <li>Facts &amp; Foundations - Mercury</li> </ul>	<p><b>Read Davidson 2004</b></p>
<p><b>Session 18</b> <b>Thursday</b> <b>May 26</b></p>	<ul style="list-style-type: none"> <li>Academic Paper #1 - mercury</li> <li>Case Study Discussion</li> </ul>	<p><b>Read Alaska Bulletin.</b> <b>Updated Fish Advisory</b></p>

**Week 10: June 2, 4**

<p><b>Session 19</b> <b>Tuesday</b> <b>May 31</b></p>	<ul style="list-style-type: none"> <li>Group Project presentations</li> </ul>	
<p><b>Session 20</b> <b>Thursday</b> <b>June 2</b></p>	<ul style="list-style-type: none"> <li>Group Project presentations</li> </ul>	

**FINAL EXAM WEEK**

No class meeting. Final Reflection due by 5 pm Friday June 10

**UW Disability Statement:**

Access and Accommodations: Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course.

If you have not yet established services through DRS, but have a temporary health condition or

permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or [uwdrs@uw.edu](mailto:uwdrs@uw.edu) or [disability.uw.edu](http://disability.uw.edu). DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

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Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism, and the [SPH Academic Integrity Policy \(Links to an external site.\)](#). Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standards and Student Conduct website.