

EHS C185B/C200B: Foundations of Environmental Health Sciences for Public Health Professionals

UCLA School of Public Health

<https://ccle.ucla.edu/course/view/17F-ENVHLC200B-1>

DRAFT Syllabus - Fall 2017 - *LAST UPDATED Sept. 21, 2017*

Please note that this syllabus is subject to change - please check course website for updates

Course information

Time: Mondays, Wednesdays, and Fridays, 3-4:50 PM
Location: 71-257 CHS
Cap on Attendance: 25 total (5 in C185B, 20 in C200B)
Units: 6

Instructor:
Brian Cole, MPH, DrPH
Assistant Professor In-Residence, Env Health Sci
Office phone: (310) 206-4253, Email: blcole@ucla.edu
Office Hours: By appointment in 5127 LSB

Required Text

Environmental Health: From Global to Local by Howard Frumkin, 3rd edition:
ISBN-10: 1118984765 | ISBN-13: 978-1118984765 (available as a Kindle ebook, ASIN B01BN0QGU8)

Independent Reading Selection (*Homework #5*)

Each student is required to independently read one additional book in the field of Environmental Health Sciences, turn in a review of the book and give an oral presentation in class on the book during week 7 (the 6th full week of the course). Please note that only one student will be allowed to report on any given book, so you MUST get your book choice approved in advance by the instructor. You are encouraged to select your book early. Please send an email to blcole@ucla.edu listing the title and author of your top five choices and ranked 1 (first choice) to 5 (last choice) as soon as possible to increase the likelihood that you will get one of your top choices. Suggested books are listed below. These are books that are likely to be both enjoyable and provide valuable insights into environmental health. You may include books that are not listed below among your five alternatives, as long as the books are nonfiction and are related to the field of Environmental Health Sciences (broadly defined). Please DO NOT choose a book that you have already read; the whole idea is for you to expand your horizons!

Recommended independent reading selections:

- *Betrayal of Trust: The Collapse of Global Public Health* by Laurie Garrett
- *The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It* by Paul Collier
- *Breaking Trail: A Climbing Life* by Arlene Blum
- *Breasts: A natural and unnatural history* by Florence Williams
- *Cadillac Desert: The American West and Its Disappearing Water* by Marc Reisner
- *Chew On This: Everything You Don't Want to Know About Fast Food* by Charles Wilson and Eric Schlosser
- *A Civil Action* by Jonathan Harr
- *Collapse: How Societies Choose to Fail or Succeed* by Jared Diamond
- *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* by Laurie Garrett
- *Deceit and Denial: The Deadly Politics of Industrial Pollution* by Gerald Markowitz and David Rosner
- *Doubt is Their Product: How Industry's Assault on Science Threatens Your Health* by David Michaels
- *Dumping in Dixie: Race, Class and Environmental Quality* by Robert Bullard
- *Fast Food Nation: The Dark Side of the All-American Meal* by Eric Schlosser
- *Field Notes from a Catastrophe: Man, Nature, and Climate Change* by Elizabeth Kolbert
- *Guns, Germs, and Steel: The Fates of Human Societies* by Jared Diamond
- *I Contain Multitudes* by Ed Yong
- *The Immortal Life of Henrietta Lacks* by Rebecca Skloot
- *In Defense of Food: An Eater's Manifesto* by Michael Pollan
- *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder* by Richard Louv
- *Lead Wars: The Politics of Science and the Fate of America's Children* by Gerald Markowitz
- *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* by Naomi Oreskes and Erik M. Conway
- *The Omnivore's Dilemma: A Natural History of Four Meals* by Michael Pollan
- *Power and Powerlessness: Quiescence and Rebellion in an Appalachian Valley* by John Gaventa
- *Silent Spring* by Rachel Carson

Course Description

Multidisciplinary aspects of environmental health sciences in context of public health for master's and doctoral students pursuing degrees in the Department of Environmental Health Sciences (C200B) and for IoES undergraduate majors who are pursuing a concentration in Environmental Health or Public Health Minors (C185B). EHS 200B is also a suitable substitute for EHS 100 for MPH students in other concentrations (Community Health Sciences, Health Policy and Management, Epidemiology or Biostatistics) who have a strong background in the sciences and would like a more in depth exposure to the topic. Letter grading. Preparation required: one year each of undergraduate biology, calculus, chemistry, and physics. *Please note that there are two sections of EHS 200B being offered in Fall 2016. This section (LEC 2) is designed for students pursuing the MPH option.*

Every day the front page of every newspaper in the world has an article that touches on environmental health. The threats can be global climate change, heat waves or floods, air and water pollution, oil spills or contamination from geologic fracturing, effects on vulnerable populations, radiation threats, shelter failures, and many more. Future environmental health and public health leaders must understand the vocabulary and systems issues related to these challenges and be able to analyze, develop course of action, communicate, follow direction, and eventually to lead! The purpose of this course is to develop the content knowledge and thought processes to effectively assume these roles.

Course Website

All homework assignments are posted on the course website: <https://ccle.ucla.edu/course/view/17F-ENVHLTC200B-2>

If you are unable to access the course website, please contact Brian Cole (blcole@ucla.edu).

Course Structure

The class meets six hours per week and is in the format of an interactive seminar on Mondays and Wednesdays and Communication and Leadership Activities on Fridays. Active participation is essential to success in this course. Please read all required reading prior to coming to each class. Reading Assignments are listed in the tentative course schedule found at the end of this syllabus; any updates will be posted on the course website. Homework Assignments must be submitted prior to the beginning of class via the course website on the date that they are due.

Learning Objectives and Competencies

Upon completion of this course, you should be able to demonstrate the skills listed as “Course Learning Objectives” below. These learning objectives were selected to help you build competencies required for the MPH program (see <http://ph.ucla.edu/current-students/programmatic-competencies>).

<i>COURSE LEARNING OBJECTIVES</i>	<i>HOW THESE LEARNING OBJECTIVES ALIGN WITH COMPETENCIES FOR SPECIFIC DEGREE PROGRAMS</i>	
	<i>MPH Core Competencies (for all MPH students)</i>	<i>EHS MPH Discipline-Specific Competencies (for MPH students in the EHS concentration)</i>
1. Accurately and effectively communicate environmental health risks to critical stakeholders individually and as part of a team.	C5. Identify potential sources of systematic error (bias) as well as random error. F5. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities. F8. Engage in dialogue and learning from others to advance public health goals. F9. Demonstrate team building, negotiation, and conflict management skills. F10. Use collaborative methods for achieving organizational and community health goals. F11. Articulate how biological, chemical and physical agents affect human health.	I1.1 Describe major direct and indirect human health and safety effects of major environmental or occupational agents or conditions. I10.1 Organize information and data, prepare technical reports and give oral presentations on environmental contaminants and impacts. I10.2 Communicate effectively with diverse audiences
2. Tailor written communications so that they are appropriate to the target audience.	C2. Identify key sources of data and use existing databases to provide background or supportive data to address research questions. F5. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities. F11. Articulate how biological, chemical and physical agents affect human health.	I10.2 Communicate effectively with diverse audiences
3. Using specific examples in Environmental Health, describe the major barriers to implementing policies of prevention in the area of public health and critical strategies for overcoming these barriers.	F14. Apply evidence-based principles and the scientific knowledge base to critical evaluation and decision-making in public health.	
4. Describe the major threats to health in homes and the primary strategies currently used to combat these threats in the United States.	C1. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.	I1.1 Describe major direct and indirect human health and safety effects of major environmental or occupational agents or conditions.

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5. Describe a type of physical threat to human health and provide both a historical example of how this threat has impacted human health on a catastrophic scale and how this threat impacts the daily lives of some people today.	C1. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents. F11. Articulate how biological, chemical and physical agents affect human health.	I1.1 Describe major direct and indirect human health and safety effects of major environmental or occupational agents or conditions. I1. 4 Be able to construct and interpret models of environmental health pathways to develop solutions to environmental health problems and exposures.
6. Describe how Health Impact Assessment differs from traditional Risk Assessment. Provide an example of a situation where HIA would be more useful than traditional Risk Assessment.	C2. Develop and assess appropriate data collection instruments (e.g., questionnaires, physical exam, lab assays, etc.) and evaluate the use of questionnaires and measurement instruments in collection of data to maintain internal validity C4. Specify current environmental risk assessment methods. C7. Develop an efficient design for collecting, recording, managing, and storing data. Adapt principles of data management and quality assurance to different study designs F15. Differentiate between qualitative and quantitative evaluation methods in relation to their strengths, limitations, and appropriate uses, and emphases on reliability and validity.	I5.1 Use at least three of these assessment methods: quantitative risk assessment; burden of disease using disability-adjusted life years; spatial analysis and geographic information systems; health impact assessment; alternatives assessment. I5.2 Identify areas of uncertainty in exposure and risk assessment processes
7. Describe how both scientific data and community engagement are critical to implementing important environmental health policies.	C3. Identify an appropriate target population for investigating the research question.	

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	<i>MPH Core Competencies (for all MPH students)</i>	<i>EHS MPH Discipline-Specific Competencies (for MPH students in the EHS concentration)</i>
8. Describe an example of an occupational health problem and how a prevention approach could be used to address this problem.	C1. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents. F11. Articulate how biological, chemical and physical agents affect human health.	I1.1 Describe major direct and indirect human health and safety effects of major environmental or occupational agents or conditions. I1.2 Identify the most important disease burdens with major environmental or occupational risk factors and the environmental or occupational risk factors that produce the most disease burden in either the general population or in heavily affected subgroups. I1.3 Identify significant gaps in the current knowledge base concerning health effects of environmental or occupational agents. I3.1 Describe how humans are exposed to chemical, physical, and biological agents in the workplace and environment and how exposures are determined. I3.2 Describe how exposures can be controlled through administrative procedures, personal protective equipment, various engineering technologies, and social interventions
9. Describe the most pressing health problems associated with climate change faced by Southern Californians; provide examples of how resiliency towards these effects might be built.	C1. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents. F11. Articulate how biological, chemical and physical agents affect human health.	I1.1 Describe major direct and indirect human health and safety effects of major environmental or occupational agents or conditions. I9.1 Explain climate change and likely direct and indirect impacts on environment and health. I9.2 Define major approaches for climate change mitigation and adaptation in California and internationally.
10. Describe an example of how regulations and/or inspections have been used to prevent environmental health problems; describe who has the authority to impose these regulations in our region.	E2. Describe the legal and ethical bases for public health and health services. E4. Discuss the policy process for improving the health status of populations. F14. Apply evidence-based principles and the scientific knowledge base to critical evaluation and decision-making in public health.	I2.2 Describe how chemical agents are tested for acute, sub-chronic and chronic health effects, including reproductive, developmental and carcinogenic effects, and use of "omics" methods, and interpret toxicological data in terms of relevance to human health. I6.1 Describe major types of institutions responsible for occupational or environmental health policy I6.2 Identify major state, federal, international regulatory programs or authorities for occupational or environmental health. I6.3 Analyze policy contexts and develop responsive policy proposals reflecting environmental health science

Course grading

1. Homework Assignments (8 for students registered for 200B; choice of 5 for students registered for 185B) 40%
2. Midterm Exam 20%
3. Final Exam 20%
4. Participation 20%

Homework

Detailed homework assignments are posted on the course website under the week that they are due; most homework assignments are designed to be 1-2 pages in length (single spaced, 1 inch margins). Critical guidance on homework assignments and writing expectations will be provided in class the week prior to the assignment due date, so it is important that you attend class regularly. **Homework assignments are due on Fridays and must be submitted via the course website (<https://ccle.ucla.edu/course/view/17F-ENVHLC200B-2>) prior to the beginning of class on the day that they are due.** There are no homework assignments due either the first Friday of the quarter or the date of the midterm exam. Please note that **ALL** students will be required to independently read a book in the field of Environmental Health Sciences, which must be preapproved by the instructor. Each student will be required to turn in a written book review (in the style of a New York Times book review) and give a short oral presentation in class on the book that they read and reviewed during Week 7 (the sixth full week of the course).

If you feel that you need individual writing assistance, we encourage you to see <http://gsrc.ucla.edu/gwc/> (UCLA Graduate Writing Center) or http://www.wp.ucla.edu/index.php?option=com_content&view=article&id=161&Itemid=113 (UCLA Undergraduate Writing Center) for information about how to schedule a consultation. Please note that consultations must be scheduled in advance, so PLEASE PLAN AHEAD.

Undergraduate students (enrolled in 185B) should only complete 5 of the 8 total homework assignments.

Homework #5 (Book Review) is required for ALL students, but students taking 185B may choose which four other homework assignments they wish to complete. For undergraduates, each homework assignment is worth 8% of the total grade (40% total for all homework assignments). There is no extra credit given for completing more than the five required assignments; we will simply count the grades from the first five assignments that you turned in.

Graduate students (enrolled in 200B) must complete all 8 of the homework assignments. For graduate students, each homework assignment is worth 5% of the total grade (40% total for all homework assignments).

Homework Assignments [due date] (see course website for details)

1. Facebook post on current Env. Health issue [9/30]
2. Env. Health ethics (group presentation) [10/5]
3. Environmental noise assessment (small groups) [10/14]
4. Occupational hazard Powerpoint [10/21]
5. Book review (written report + presentation) [11/4]
6. Review of a recent news article [11/14]
7. Promotional announcement for an upcoming environmental justice event [11/18]
8. Explanation of food facility rating system [12/2]

Initial Knowledge Assessment; Midterm and Final Exams

During the second hour of the first day of the course, you will be required to complete an "Initial Knowledge Assessment" that contains 8 short answer questions related to topics that will be covered during the course. The initial knowledge assessment does not count towards your grade. **PLEASE DO NOT TRY TO STUDY FOR THIS ASSESSMENT.** The Initial Knowledge Assessment is designed to provide the instructor with insights into the knowledge you have coming into the course so that we don't repeat information that you already know and gauge the level of the course appropriately. This assessment will also help us to group you appropriately with others who have different skill sets when we have the communication and leadership activities on Fridays.

Part one of the midterm and the final will contain multiple choice/fill in the blank questions, which are designed to test your retention of the materials presented in the readings and lectures. The 25 multiple choice/fill in the blank questions on part one of the midterm will cover materials from the lectures and readings from the first 5 weeks of the quarter (9/28/17 through 11/1/17). The 25 multiple choice/fill in the blank/short answer questions on part one of final exam will cover materials from the lectures and readings from weeks 6-11 of the quarter (11/6/17 through 12/8/17).

Part two of the midterm and the final will contain short answer questions designed to test your knowledge gains as a result of taking the course. Part two of the midterm will be identical to the first four short answer questions on the Initial Knowledge Assessment; Part two of the final exam will be identical to questions 5-8 on the Initial Knowledge Assessment.

ALL EXAMS ARE CLOSED BOOK/ONE 4X6-INCH NOTECARD WITH HAND-WRITTEN NOTES (BOTH SIDES) ALLOWED FOR THE MID-TERM AND FINAL EXAMS.

Class Participation

The class meets six hours per week and is in the format of an interactive seminar on Mondays and Wednesdays and Communication and Leadership Activities on Fridays. Active participation is essential to success in this course. PLEASE MAKE SURE THAT YOU ARE IN CLASS ON TIME. On Mondays and Wednesdays, we will assume that you have completed all required reading prior to coming to each class and use those readings as a starting point for in class discussions. PLEASE MAKE SURE THAT YOU HAVE COMPLETED ALL REQUIRED READINGS PRIOR TO COMING TO CLASS. Fridays are dedicated to hands-on Communication and Leadership Activities, which also require active participation of all students. PLEASE COME TO CLASS READY TO LEARN AND BE ENGAGED. Although you are allowed to use computers during class, we are relying on you to exercise restraint and not surf the web (or engage in other non-class activities online) during class.

Tentative Course Schedule (as of 9/11/17). Please note that the schedule is subject to change; please check the course website for updates and the final schedule.

Day	Topic & Primary Instructor	Reading Assignment (Please read prior to the class on the day specified)	Homework Assignment (must be submitted electronically via course website before the beginning of class on the day listed)
Week 0 Friday 9/29/17	General Introduction to Course (Cole) <ul style="list-style-type: none"> - Overview of the course and subject area - Brief discussion of course organization issues - Syllabus, grading, introductions Initial Knowledge Assessment (7 short answer questions)	Please be sure to purchase the text book from an online retailer prior to the beginning of the quarter	
Week 1 Monday 10/2/17	Radiation & Health (Cole)	Frumkin, <i>Environmental Health</i> : Ch. 22 (3 rd ed) "Radiation" Gephart, 2010	
Wednesday 10/4/17	History of occupational and community exposure to hazardous chemicals (Cole) Hazardous Substances and Hazardous Waste (Godwin)	Frumkin, <i>Environmental Health</i> : Ch. 17 (3 rd ed) "Solid and Hazardous Waste"	
Friday 10/6/17	Ergonomics, including hands-on activity (Brogmus)	<i>Please see course website for readings</i>	HOMEWORK #1
Week 2 Monday 10/9/17	<ul style="list-style-type: none"> • Review of Initial Knowledge Test (Cole) • Toxicology: Case Study of Mercury (Cole) 3-4 pm • Introduction to Industrial Hygiene #1 (Que Hee) 4-4:50 	<i>Frumkin, Environmental Health</i> : Ch. 6 (3 rd ed.) "Toxicology" Ekino et al, 2007 Ch. 22 (3 rd ed) "Workplace Health & Safety," Ch. 8(3 rd ed) "Exposure Assessment..."	
Wednesday 10/11/17	Introduction to Industrial Hygiene #2 (Que Hee), 3-5 pm		HOMEWORK #2
Friday 10/13/17	Introduction to Environmental Epidemiology #1 (Robbins)	Frumkin, <i>Environmental Health</i> : Ch. 4 (3 rd ed) "Environmental and Occupational Epidemiology"	
Week 3 Monday 10/16/17	Introduction to Environmental Epidemiology #2 (Robbins)	Frumkin, <i>Environmental Health</i> : Ch. 4 (3 rd ed) "Environmental and Occupational Epidemiology"	

Day	Topic & Primary Instructor	Reading Assignment (Please read prior to the class on the day specified)	Homework Assignment (must be submitted electronically via course website before the beginning of class on the day listed)
Wednesday 10/18/17	Environmental Noise Exposure, including hands-on activity (Cole)	Basner M, Babisch W, Davis A, Brink M, Clark C et al. <i>Auditory and non-auditory effects of noise on health</i> . Lancet 2014; 383: 1325-32.	
Friday 10/20/17	Air Pollution and Health (Cole)	Frumkin, <i>Environmental Health</i> : Ch. 13 (3 rd ed) "Air Pollution" Jerrett et al, 2005 Ritz et al, 2007 Meng et al, 2010	Homework #3
Week 4 Monday 10/23/17	Environmental Health Regulations & Policy (Cole)	IOM "For the Public's Health" ch 3. NRDC "An Introduction to Federal Environmental Policy" Nriagu, 1990	
Wednesday 10/25/17	Occupational Medicine, pt 1 (Hudson), 3-4 pm Environmental Regulations - Haz Waste Regulations (Cole), 4-5 pm	Frumkin, <i>Environmental Health</i> : Ch. 21 (3 rd ed) "Workplace Health & Safety" NB: Dr. Hudson may recommend additional articles.	
Friday 10/27/17	Occupational Medicine, pt 2 (Hudson), 3:00-3:35pm Environmental Regulations - Haz Waste Regulations (Cole), 3:45-5	Frumkin, <i>Environmental Health</i> : Ch. 17 (3 rd ed) "Solid and Hazardous Waste" Mazur, 2002	Homework #4
Week 5 Monday 10/30/17	How struggles for environmental justice have shaped environmental regulation in the U.S. (Cole)	Frumkin, <i>Environmental Health</i> : Ch. 11 (3 rd ed). "Environmental Justice." Cushing et al. 2015. Racial/Ethnic Disparities in Cumulative..." PEER. 2015. EPA's environmental justice program..."	
Wednesday 11/1/17	Pesticides - Farm Workers and Children (Cole)	Frumkin, <i>Environmental Health</i> : Ch. 18 (3 rd ed) "Pest Control and Pesticides" Reynolds et al, 2002	

Day	Topic & Primary Instructor	Reading Assignment (Please read prior to the class on the day specified)	Homework Assignment (must be submitted electronically via course website before the beginning of class on the day listed)
Friday 11/3/17	Midterm: <ul style="list-style-type: none"> - 25 multiple choice/fill in the blank questions designed to test your retention of materials covered in readings and in class in weeks 1-4 (9/23/17 through 10/21/17) - 5 Environmental Health abbreviations (2 points each; you provide the corresponding expanded/complete name) covered in the lectures, class discussions, and required readings. - 3-4 short answer questions (similar to questions on the initial knowledge assessment) 	NO READING ASSIGNMENT	NO HOMEWORK
Week 6 Monday 11/6/17	Overview of Methods for Assessing Risk and Assessing Alternatives (Malloy)	Frumkin, <i>Environmental Health</i> : Ch. 27 (3 rd ed) "Risk Assessment" Ch. 28 (3 rd ed) "Risk Communication" Jacobs et al. 2016. "Alternatives Assessment..."	
Wednesday 11/8/17	Zoonotic and Vector-borne Diseases (Cole)	Benelli & Mehlhorn, 2016	
Friday 11/10/17	Veterans' Day (no Class)		HOMEWORK #5: "NY Times" book review (REQUIRED FOR ALL STUDENTS, INCLUDING UNDERGRADUATES ENROLLED IN C185B)
Week 7 Monday 11/13/17	STUDENT BOOK PRESENTATIONS		
Wednesday 11/15/17	Energy Utilization and the Physical Basis of Climate Change (Godwin)	Frumkin, <i>Environmental Health: From Global to Local (2e)</i> , Chapter 13 "Energy Production" and Chapter 23 "Environmental Disasters"	
Monday 11/17/17	Human health and climate change (Godwin)	Frumkin, <i>Environmental Health</i> : Ch. 4 "Population Pressure" Ch. 12 (3 rd ed) "Climate Change"	

Day	Topic & Primary Instructor	Reading Assignment (Please read prior to the class on the day specified)	Homework Assignment (must be submitted electronically via course website before the beginning of class on the day listed)
Week 8 Monday 11/20/17	Health Impact Assessment of transportation projects and policies (Cole)	<p><i>Posted on course website:</i></p> <ul style="list-style-type: none"> • Parry J, Stevens A. Prospective health impact assessment: pitfalls, problems, and possible ways forward. <i>BMJ</i>. 2001 Nov 17;323(7322):1177-82. • Cole BL, Fielding JE. Health impact assessment: a tool to help policy makers understand health beyond health care. <i>Annu Rev Public Health</i>. 2007;28:393-412. 	Homework #6
Wednesday 11/22/17	Occupational Health (Krause)	<p>Frumkin, <i>Environmental Health</i>: Ch. 21 (3rd ed) "Workplace Health & Safety" Ch. 4 (3rd ed) "Environmental and Occupational Epidemiology" Abrams, 2001</p>	
Friday 11/24/17	NO CLASS - THANKSGIVING HOLIDAY		
Week 9 Monday 11/27/17	Communication & Leadership Activity: Inspection of Food Establishment (guest lecturers: Jennie Wung and Daniel Paek, UCLA EH&S)	<p>Frumkin, <i>Environmental Health</i>: Ch. 19 (3rd ed) Ch. 26 (3rd ed) "Environmental Health Practice" Please also review UCLA Food Inspection form prior to class (posted on course website)</p>	Homework #7
Wednesday 11/29/17	Water Quality & Water Scarcity (Cole)	<p>Frumkin, <i>Environmental Health: From Global to Local (2e)</i>, Chapter 15 "Water and Health" Hanna-Attisha et al, 2010</p>	
Friday 12/1/2017	Environmental determinants of mental and social well-being; Built Environment & Health (Cole)	<p>Ch. 15 (3rd ed) "Healthy Communities." Ch. 20 (3rd ed) "Healthy Buildings." Ch. 25 (3rd ed) "Nature Contact" Ch. 9 (3rd ed) "Environmental Psychology"</p>	

Day	Topic & Primary Instructor	Reading Assignment (Please read prior to the class on the day specified)	Homework Assignment (must be submitted electronically via course website before the beginning of class on the day listed)
Week 10 Monday 12/4/17	Oil, Gas and Health (Cole) Risk Communication & Risk Perception (Cole)	Colborn et al, 2011 Frumkin, <i>Environmental Health</i> : Ch. 27 (3 rd ed) "Risk Assessment" Ch. 28 (3 rd ed) "Risk Communication"	
Wednesday 12/6/17	Optional Field Trip to Esperanza Community Housing (Cole) <ul style="list-style-type: none"> • MEET IN FRONT OF LOT 9 AT 11 am; BACK ON CAMPUS BY 5 PM • Meet promotores and Director Nancy Ibrahim Discussion with promotores regarding what their work is like, what services provided, challenges, opportunities for partnerships		
Friday 12/8/17	Communication & Leadership Activity: Water Quality - Pool Inspection (guest lecturers: Jennie Wung and Daniel Paek, UCLA EH&S)	Please review prior to class (posted on course website): <ul style="list-style-type: none"> • UCLA Pool Inspection form • Informational sheet about Virginia Graeme Baker Act Information Sheet about Basic Swimming Pool Recirculation Systems and Chemistry	Homework #8
Finals Week	FINAL EXAM IS TUESDAY, DECEMBER 2, 2017 8:00 AM - 11:00 AM; Location 71-257 CHS <ul style="list-style-type: none"> - 25 multiple choice/fill in the blank questions designed to test your retention of materials covered in readings and in class in weeks 5-10 (10/24/2016 through 12/2/17) - 5 Environmental Health abbreviations (2 points each; you provide the corresponding expanded/complete name) covered in the lectures, class discussions, and required readings. - 4 short answer questions (identical to questions 5-8 of the initial knowledge assessment) 		

Assigned Readings (see schedule above for the class session corresponding to each reading)

NB: These readings are available on-line. Access is free for UCLA students, faculty and staff.

Abrams, H.K., 2001. A short history of occupational health. *Journal of public health policy*, 22(1), pp.34-80.

Benelli, G. and Mehlhorn, H., 2016. Declining malaria, rising of dengue and Zika virus: insights for mosquito vector control. *Parasitology research*, 115(5), pp.1747-1754.

Colborn, T., Kwiatkowski, C., Schultz, K. and Bachran, M., 2011. Natural gas operations from a public health perspective. *Human and ecological risk assessment: An International Journal*, 17(5), pp.1039-1056.

Cushing, L., Faust, J., August, L.M., Cendak, R., Wieland, W. and Alexeeff, G., 2015. Racial/ethnic disparities in cumulative environmental health impacts in California: Evidence from a statewide environmental justice screening tool (calenviroscreen 1.1). *Journal Information*, 105(11).

Ekino, S., Susa, M., Ninomiya, T., Imamura, K. and Kitamura, T., 2007. Minamata disease revisited: an update on the acute and chronic manifestations of methyl mercury poisoning. *Journal of the neurological sciences*, 262(1), pp.131-144.

Gephart, R.E., 2010. A short history of waste management at the Hanford Site. *Physics and Chemistry of the Earth, Parts A/B/C*, 35(6), pp.298-306.

Hanna-Attisha, M., LaChance, J., Sadler, R.C. and Champney Schnepf, A., 2016. Elevated blood lead levels in children associated with the Flint drinking water crisis: a spatial analysis of risk and public health response. *American journal of public health*, 106(2), pp.283-290.

Jerrett, M., Burnett, R.T., Ma, R., Pope III, C.A., Krewski, D., Newbold, K.B., Thurston, G., Shi, Y., Finkelstein, N., Calle, E.E. and Thun, M.J., 2005. Spatial analysis of air pollution and mortality in Los Angeles. *Epidemiology*, 16(6), pp.727-736.

Mazur's, A., 2002. Looking back on love canal. *Public health reports*, 117, p.95.

Meng, Y.Y., Rull, R.P., Wilhelm, M., Lombardi, C., Balmes, J. and Ritz, B., 2010. Outdoor air pollution and uncontrolled asthma in the San Joaquin Valley, California. *Journal of epidemiology and community health*, 64(2), pp.142-147.

NRDC, 2013. An Introduction to Federal Environmental Policy.
<https://www.nrdc.org/sites/default/files/policy-basics-full.pdf>

Nriagu, J.O., 1990. The rise and fall of leaded gasoline. *Science of the total environment*, 92, pp.13-28.

Reynolds, P., Von Behren, J., Gunier, R.B., Goldberg, D.E., Hertz, A. and Harnly, M.E., 2002. Childhood cancer and agricultural pesticide use: an ecologic study in California. *Environmental health perspectives*, 110(3), p.319.

Ritz, B., Wilhelm, M., Hoggatt, K.J. and Ghosh, J.K.C., 2007. Ambient air pollution and preterm birth in the environment and pregnancy outcomes study at the University of California, Los Angeles. *American journal of epidemiology*, 166(9), pp.1045-1052.