

Environmental Health Sciences 208: Built Environment and Health

UCLA Fielding School of Public Health

Syllabus Shorter and updated Version – Winter 2017

As of January 19, 2017

Course information

Time: Tuesdays 2:00 pm - 4:50 pm

Location: Room 61-262, Center for Health Sciences (UCLA Fielding School of Public Health)

Units: 4

Instructor:

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Course Description

An interdisciplinary course on **Built Environment and Health (BEH)** with an emphasis on creating health-based change

The US and other developed and developing countries face epidemics of acute and chronic diseases that can originate or accelerate due to land use and built environment (BE) decisions. While the hazards presented by air and water pollution are well recognized to result in infectious and toxicant-related illnesses, there has been increased recognition of the hazards presented by building and community designs that fail to optimize human health. Land use and built environment decisions have impacts for good or ill in every locality and for every age, social, economic and racial group, and these impacts range from the very acute (e.g. motor vehicle trauma) to the long term (e.g. obesity, diabetes, cancer, heart disease).

BE decisions are largely based on financial, regulatory, insurance, political, cultural and other factors. BE changes are made in the context of cultural and community values, vested interests, environmental and budget constraints, and more—how is health connected to those issues? How can health considerations be made more cogent and effective? This course will explore the “networks” around the BE, especially the health connections. Students will analyze these factors and related disease endpoints with an emphasis on exploring solutions-oriented approaches that confer substantial co-benefits for health, environment, equity and economy. Students will learn the vocabulary of related disciplines, the history, values, and some of the tools to effect change. Because they are essential skills to be a change agent, the course will have an emphasis on students’ communication and leadership skills.

Over the last 15 years research into BEH has advanced substantially. International, national, state and local BEH efforts are developing rapidly. Awareness of the health implications of the built environment has grown exponentially. BEH concepts are now increasingly embraced at the “top” by various elected and appointed leaders, planning directors and enlightened developers; and increasing at the “bottom” by recently trained individuals entering the profession and by energized communities. The course will focus on strategizing ways to *move health into all policies*, through applied participatory and communication skillsets.

While the advancement of the field of BEH contains elements that are strongly positive for both current and future health, all successes contain within them dangers and the seeds for failure. A genuine danger is that health issues may become the next mere design fad, and just as new buildings and developments are being “greenwashed”, so “healthwashing” may erode substantive improvements to health and the built environment. The future of BEH efforts will succeed or fail depending on the cogency of data and clarity of the messaging by future practitioners of public health, urban planning, architecture, business, law and related fields.

January 19, 2017

Course objectives

By completing the class assignments, required readings, and through active participation, students will be able to:

1. Understand how the built environment impacts health both positively and negatively.
2. Have a basic knowledge of the literature and issues regarding the built environment and health.
3. Develop vocabulary and skills to represent the significance of public health in policymaking settings, including those pertaining to the built environment.
4. Identify resources available to shape the built environment to improve public health.
5. Be conversant with built environment remedies that confer co-benefits in terms of health, sustainability, and economy.
6. Understand and be able to participate in the built environment decision-making process.

Class Structure and Participation

This class requires substantial student engagement. Do not skip the readings. Do not be passive. The challenges of 2017 that you as rising leaders must face will require creativity and courage, deep training and learning from experience.

The first lectures will reflect the instructor's thinking about the ways that imagined and constructed environments affect health. We spend our entire lives in environments that were created by humans—even those who walk in on the moon are in “constructed environments” even more so than a UCLA student. Virtually every physical construct we observe is the result of a network of factors: cost, resilience, policy, beliefs, available materials, changes in style, ego gratification, and much more. To effect changes in built environments requires either: great wealth and power, or it demands that we have an understanding of the influences that created these environments, and in fact are invested in maintaining that status quo.

Subsequent lectures will focus on the students' analytic, synthetic and communication skills.

The subsequent class sessions will require joint presentations and oral perspectives by the students. Most of the classes will include a combination of presentations by the instructor, student discussion, guest speakers and the student presentations. Students who are disengaged doing other activities risk zeroing their participation score. All students are expected to read the assigned readings and submit responses and assignments by the deadlines listed below.

Course Grading

1. Participation: 20%
2. Radio Perspective Piece: 15%
3. Weekly Reading Responses: 20%
4. Three or four class quizzes (less than 20 minutes) on prior assigned readings: 20%
5. Final BEH Issue Group Project: 25%

Radio Perspective, Weekly Reading Responses, Take-home Midterm Exam, and Final Group Project

1. **Radio Perspective:** Each student is expected to prepare a two-minute (~117 second) oral “perspective” piece on BEH. The student will submit an edited recording for the entire class to listen to and participate in a constructive feedback dialog. The perspective should work on a personal, emotional (versus intellectual) level, and must not use jargon or overly technical language. Please refrain from using background noises for effect in your recording. Humans have learned from storytelling for thousands of years; this method of communication is an important tool for influencing policy change. For examples of perspectives go to: <http://www.kqed.org/radio/programs/perspectives/>

- Free audio editing software is: <http://www.nch.com.au/wavepad/index.html>;
 - More resources and editing guide posted to <https://ccle.ucla.edu>
 - Perspective presentations will take place Weeks 4 and 5. Sign-up will be on Week 2.
2. **Required Reading and Quizzes:** students must complete the required readings. Quizzes at the beginning of at least 3 classes will review the prior 2 weeks of assigned readings. Lowest quiz score will be dropped.
3. **FINAL: BEH Issue Group Project:** Students will work in groups of 2-3 students on a project and presentation that investigates an assigned and *specific* Built Environment issue that will address context, policy, finance, legal, cultural issues. The presentations will require that students scope the context of an issue, the challenges and assets, obstacles and opportunities, and map out a strategy for dealing with these and possible tactics. The best work groups are composed of students with different background and skills. ***Opinions are inadequate!*** The presentation to the class must incorporate qualitative and quantitative data and research results into their analyses and strategies for remedy. At the end of the term, the group shall then submit 5-6 page paper summarizing their research and findings.

Possible Projects:

- Specific Comments on the State General Plan: What's new? What's good? How to make it stick?
- The Los Angeles River: How to improve without damaging communities already present?
- What are the next strategies to improving biking at UCLA, then environs, then Los Angeles?
- Homelessness: the most important built environment is shelter. How to address?
- How to take high end built environment changes, e.g. Delos, and scale them to serve all?
- What would healthy schools look like? How about college student residences?
- High Speed Rail in the Central Valley: how it can help and not harm health?
- Inevitable Carbon Tax: How to optimize expenditures?
- How to assure that measure M promotes human health
- Be creative: think of more!

The project consists of these components:

- a. **Meet with Dr Jackson in Weeks 2 or 4 or 5 to conceptualize proposal.**
- b. **PowerPoint Presentation:** The class presentation would briefly outline the project history, obstacles, costs, cultural and other relevant factors, especially those related to health. Each group must present the project, research, and findings. The dates for presentations will be set by Week 4. Each group is given 15 minutes to present. Time will be kept to ensure students adhere to the time limit. Presentations should be creative, convincing, and insightful (e.g. include photos taken by the students on a site visit if possible).

DO NOT just read your PowerPoint. DO NOT present a visual summary that lacks insight into the "frame" of BE issue. Presentations must be specific to a place and time. Presentations such as: "stairs or green roofs, farmers markets or school gardens are good etc..." are self-evident and lacking in original work or insight, and will receive negative feedback from the class and in grading.

Required:

[Andrew L Dannenberg, Howard Frumkin, Richard J Jackson \(Eds.\). \(2011\). *Making Healthy Places: Designing and Building for Health, Well-being, and Sustainability*. Washington, DC: Island Press.](#)

[Urban Land Institute Building Healthy Places Toolkit](#): Strategies for Advancing Health in the Built Environment. (2015) PDF is available for no charge online.

Additional required readings will be posted on the course website.

Strongly recommended because of the focus on community issues and how positive change is created, rather than just why it is needed:

Four Hour Public Broadcasting Series (2011). Designing Healthy Communities. Media Policy Center <http://designinghealthycommunities.org/>

[Designing Healthy Communities](#). Richard J Jackson with Stacy Sinclair (2011). ISBN: 978-1-1180-3366-1 Jossey-Bass (used copies are on Amazon; one will be put on reserve in the BioMed library.)

Additional Texts and Resources for Information:

- [Urban Sprawl and Public Health: Designing, Planning and Building for Healthy Communities](#). Howard Frumkin, Lawrence Frank, Richard Jackson (2004). Island Press
- *The Built Environment and Public Health*. Russell P Lopez (2012). Jossey-Bass
- [Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs](#) Ellen Dunham Jones June Williamson 2008
- Other Classics that are excellent reading:
 - [The Death and Life of Great American Cities](#): Jane Jacobs 1961
 - [Suburban Nation: The Rise of Sprawl and the Decline of the American Dream](#) Andres Duany 2000
 - [Walkable City. How Downtown can Save America One Step at a Time.](#) Jeff Speck 2012
 - [Improving Health in the United States: The Role of Health Impact Assessment](#) NRC 2011
 - *Happiness: Lessons from a New Science*. Richard Layard 2005
 - *Zoned out Regulation Markets Choices in Transportation and Metropolitan Land Use* Jonathan Levine 2005
 - *A Better Place to Live: Reshaping the American Suburb* Philip Langdon. 1994
 - *Toward the Healthy City* Jason Corburn (2009)
 - *The Option of Urbanism: Investing in a New American Dream* Chris Leinberger 2009 Island Press
 - *Home from Nowhere: Remaking Our Everyday World for the 21st Century*. James Howard Kunstler 1998
- Other very useful documents:
 - *A Guide to Greenhouse Gas Reduction Fund Program Designs, Expenditures, and Benefits*. Luskin Center UCLA, Rabin JL, Callahan C, DeShazo JR Aug 2015
 - *Healthy Urban Planning* Hugh Barton Catherine Tsourou WHO Regional Office for Europe

Radio Perspective Topics Used in the Past and Some Suggestions
(Remember, be specific to a time and place—you want to help your listener to care about the issue.)

Built Environment and Health Issues Related to:

- Active Design Guidelines (e.g. NYC)
- Agricultural Decisions and Policy
- Air Pollution
- All Cost Accounting, Life Cycle Analysis
- Automobiles, Speed, Policy
- Bicyclists/Cycling
- Billboards and Signage
- Climate Change (BE as a mitigator and adaptor)
- Disasters and BEH (a specific disaster)
- Drought and BEH
- Emerging Technologies (micro tracking, GIS, etc)
- Environmental Impact Mitigations (green roofs, etc)
- Fires and BEH
- General or Master Plans and BEH
- Gentrification – where is it good
- Gentrification – where is it bad
- Happiness and BEH
- Health Impact Assessment (specific sites)
- Hospitals and Medical Care Facilities and Health
- Impervious Surfaces
- International Experience (what you have learned from other cities and countries)
- Legislation (recently passed or pending)
- Mental health and BE
- National Defense and BEH
- Noise and BEH
- Parks and BEH
- Parking
- Pedestrians/Walking
- Physical Activity
- Policing
- Prisons
- Public Places/Spaces
- Rail and Bus Transit
- Resilient Cities
- Rural Health
- Schools and BEH
- Safety and Security of various BEs
- Sleep and BEH
- Stairways, elevators, and BEH
- Sports Facilities and BEH (stadiums, etc)
- Sustainability and BEH
- Tax Policy as BEH Policy
- Transportation (very specific topics)
- Tree Canopy and Health
- Vulnerable Populations (elderly, children, minorities, etc)
- Water Pollution and BEH

Schedule of Weekly Classes:

Week	Topics	Required Readings and Assignments:
Week 1 Jan. 10	1. Ghost Ship Case Study 2. Introduction to Course: <u>“Life, Liberty, and Happiness”</u> <ul style="list-style-type: none"> • Overview of the course and subject area • The importance of Public Health • How the built environment is a “Determinant of health” • Built Environment and Health Past and Present • Review syllabus, grading, introductions 3. Sample Radio Perspectives 4. Need for personal course objectives by Sunday night via email to RJJ	Required Readings: (prior to next class) <i>Making Healthy Places:</i> Preface and Introduction (Chapter 1) & Chapter 9 New York Times Report on the Oakland “Ghost Ship” Fire December, 2016 plus more up to date articles you find. This will be the discussion for the next class. Recommended Readings: Younger M, Morrow-Almeida HR, Vindigni SM, Dannenberg AL. The built environment, climate change, and health: opportunities for co-benefits. <i>American Journal of Preventive Medicine.</i> 2008; 35(5):517–26. <hr/> 1. Personal Course Objectives - Due Sunday, Jan. 15 at 5:00pm Please write a one page statement about what you hope and expect to learn from EHS 208 on BEH. Submit to forum on CCLE.

		<p>3. Be Aware of future deadline: Submit 1-page radio perspective proposal to RJJ by Thursday, January 19th at 11:59pm</p> <p>4. Take a look at the CDC website: Join Healthy Places listserv at CDC: https://www.cdc.gov/healthyplaces/</p> <p>5. Join Active Living Research listserv: http://activelivingresearch.org/</p> <p>6. Subscribe to www.streetsblog.org</p>
<p>Week 2 Jan. 17</p>	<p>1. <u>Lecture & Discussion: Housing Policy as Health Policy</u></p> <p>2. <u>Thoughts about appointments to HUD and the importance of Housing and lessons from lead poisoning. ; Land Use and Health</u></p> <p>3. Housing as a health environment</p> <p>4. Tax policy, financing affordable housing</p> <p>2. discussion of successful group project presentations by past students.</p> <p>3. Sign up for radio perspective presentation day on CCLE due by 24 January (Present on Week 5 or Week 6)</p>	<p>Required Readings:</p> <p><i>Making Healthy Places</i>: Chapters 4, 6 & 16</p> <p>Scan this, be prepared to discuss generally: http://www.opr.ca.gov/docs/DRAFT_General_Plan_Guidelines_for_public_comment_2015.pdf</p> <p>KPPC story of AB 32 implementation and fuel fees.</p> <p>American Academy of Pediatrics Committee on Environmental Health. (2009). The built environment: Designing communities to promote physical activity in children. Pediatrics. 123(6):1591-1598.</p> <p>Look over these websites:</p> <p>Local Government Commission It is a very good group. Their next national meeting “New Partners for Smart Growth” is in Saint Louis Feb 2-4, 2017</p> <p>American Lung Association is an important leader on respiratory health. National State of the Air Also check out: State of the Air Report for California.</p> <p>In advance of Renee Fortier and Ana Bonilla’s class next week— Review the US Department of Transportation tool: Transportation and Health.</p>
<p>Week 3 Jan. 24</p>	<p><u>This class will be led by Renee Fortier, the head of Transportation and Events for UCLA and by Ana Bonilla the TA for the Healthy Campus BE Well initiative.</u> <u>(Jackson is at AMS in Seattle on Monday and at NCSE in DC this week)</u></p>	<p>1. For next class -- Complete Radio Perspective Recording. Round 1 to submit to CCLE by Sunday, January 29th at 5:00PM.</p> <p>Required Readings for next week: New York Times Report on the Oakland “Ghost Ship” Fire December, 2016 plus more up to date articles you find. This will be the discussion for the next class. <i>Making Healthy Places</i>: Chapters 10 & 17</p> <hr/> <p>Recommended Readings: Building Health into Community Design: One Foundation’s Effort</p>

		<p>Urban River Parkways: UCLA FSPH Jackson RJ, Watson TW, et al.</p> <hr/> <p>Final Project groups: Try via email to set an appointment during Weeks 4 and 5 for your group's in-person meeting with Dr. Jackson.</p>
<p>Week 4 Jan. 31</p>	<p><u>Environmental Impacts on Air, Water, Vegetation, Biodiversity.</u></p> <ol style="list-style-type: none"> 1. Air Quality 2. Water Quality 3. Heat Island Effect 4. Tree Canopies 5. Resource use and depletion 6. Biodiversity 7. Natural & Man-Made Disasters: How BE can mitigate or aggravate 8. Community organizing and physical resilience 9. Federal Reserve + bonds 10. Super Storm Sandy 11. Gentrification 12. Neighborhood design (grids, access, walkability) 13. Safety & perception issues, crime 14. Legal Issues 	<p>Complete Radio Perspective Recording. Round 2 to submit to CCLE by Sunday, February 5th at 5:00pm</p> <p>Required Readings for next class <i>Making Healthy Places</i>: Chapters 11, 14, 18, & 20 Examine ChangeLab Solutions Planning Website Active Transportation and Real Estate: The Next Frontier The Urban Land Institute</p> <p>Recommended Readings: McMillan, T.E. (2005) Urban form and a child's trip to school: the current literature and a model for future research. <i>Journal of Planning Literature</i>. 19(4):440-456 Staunton, C.E., Hubsmith, D., and Kallins, W. (2003). Promoting Safe Walking and Biking to School: The Marin County Success Story. <i>American Journal of Public Health</i>. 93(9): 1431-1434.</p>
<p>Week 5 Feb. 7</p>	<ol style="list-style-type: none"> 1. <u>First group of Perspectives (need to have emailed in advance)</u> 2. <u>Lecture & Discussion:</u> <u>Parks, Greenspaces, Food Systems, and Urban Ag.</u> <ul style="list-style-type: none"> • Urban parks, recreational spaces • Rural and agriculture Issues • Farmers markets • Community Agriculture • Food Safety • Parkscore 2. <u>Guest Speaker:</u> Tyler Watson, PhD student, UCLA FSPH <p><u>Land Use and Health</u></p> <ul style="list-style-type: none"> • Introduction to Land Use Planning • Draft General Plan for California • Introduction to General Plans / Planning Frameworks • Physical Planning: Where do things go? • Urban Design • Urban River Parkways • Obesity and Chronic Diseases • Active Living, Fitness vs. Obesity • Importance of Healthy Retail • Comments on the Draft General Plan <p><u>Transportation and Health</u></p>	<p>Required Readings: <i>Making Healthy Places</i>: Chapters 5 & 7</p> <p>Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation 2012 Institute of Medicine</p> <p>You already scanned this draft plan for California - be prepared to discuss in more depth: http://www.opr.ca.gov/docs/DRAFT_General_Plan_Guidelines_for_public_comment_2015.pdf</p> <p>US DoT and CDC Transportation and Health Tool: http://www.transportation.gov/transportation-health-tool</p> <p>Dangerous by Design 2014. Transportation for America.</p> <p>Victoria Transport Policy Institute Website</p> <p>A New Transport Safety Narrative. <i>Journal of Public Transportation</i>, Vol. 17, No. 4, 2014</p> <p>CalTrans Strategic Management Plan 2015-2020</p> <p>Recommended Readings:</p> <p>Putting Transit to Work in Main Street America: How Smaller Cities and Rural Places Are Using Transit and Mobility Investments to Strengthen Their Economies and Communities</p>

	<ul style="list-style-type: none"> • Injuries as leading cause of years of life lost • Traffic, trauma and health • Blood pressure, road rage, stress • Pedestrians: sidewalk/intersection design, walkable communities • Public transit, parking • Vehicles: SUVs, emergency vehicles • Comparative risks of transportation • Look at AB 32 and “Gas Tax” 	
<p>Week 6 Feb. 14</p>	<p>1 Second group of Student Perspectives 2 . Lecture & Discussion: <u>Schools, Children, and Vulnerable Populations</u></p> <ul style="list-style-type: none"> • Child development, areas of exploration • Safe Routes to School • Funding, Budgets, and Legislation • Persons with Disabilities • School siting & design • Physical Education, Playgrounds, Recess • Cafeterias, food, vending machines • Edible School Yard 	<p>Required Readings: (for next class)</p> <p><i>Making Healthy Places:</i> Chapters 3 (Food Environments) & 15 (Contact with Nature)</p> <p>Edible School Yard</p> <p>HUD information on Persons with Disabilities</p> <p>Los Angeles County PLACE Program Policies for Livable Active Communities and Environments</p> <p>ParkScore at The Trust for Public Land</p>
<p>Week 7 Feb. 21</p>	<p>3. Lecture & Discussion: <u>PART 1: Architecture, Design, & Health</u></p> <ul style="list-style-type: none"> • More on Climate Change • Designing for Health • Rebuild by Design • What is ‘sustainability’: Social, Economic & Environmental? • Energy efficiency • USGBC and LEED, Smart Growth, New Urbanism, AIA 	<p>Required Readings:</p> <p><i>Making Healthy Places:</i> Chapters 8, 12, 13, and 19</p> <p>Rebuild by Design. Hurricane Sandy Rebuilding Task Force.</p> <p>AIA Local Leaders: Healthier Communities through Design</p> <p>ULI Ten Principles to Build Healthy Places</p> <p>ULI Business Case for Building for Health 2014</p> <p>US Green Building Council Northern California Chapter Building Health Initiative</p> <p>Recommended Readings:</p> <p>Cervero, R., et al. (2007). Models for Change: Lessons for Creating Active Living Communities. Planning Magazine, A1-A12.</p> <p>Eitler, Thomas W., Edward T. McMahon, and Theodore C. Thoerig. Ten Principles for Building Healthy Places. Washington, D.C.: Urban Land Institute, 2013.</p>

		<p>Semenza, J.C. (2003). The intersection of urban planning, art, and public health: the Sunnyside Piazza. <i>American Journal of Public Health</i>, 93(9): 1439-1441.</p> <hr/> <p>1. Round 1 of Presentations</p>
<p>Week 8 Feb. 28</p>	<p>1. <u>Lecture & Discussion:</u> <u>PART 2: Architecture, Design, & Health, Hospitals</u></p> <ul style="list-style-type: none"> • More on Climate Change • Designing for Health • Rebuild by Design • What is ‘sustainability’: Social, Economic & Environmental? • Energy efficiency • USGBC and LEED, Smart Growth, New Urbanism, AIA <p>3. <u>Student Presentations</u></p>	<p><i>Required Readings:</i></p> <p><i>Making Healthy Places: Chapters 21, 22, & 24</i></p> <hr/> <p>1. Round 2 of Presentations</p>
<p>Week 9 Mar. 7</p>	<p>1. <u>Student Presentations</u></p> <p>2. <u>Lecture & Discussion:</u> <u>PART 1: Understanding ‘The System’ and Building Social Capital</u></p> <ul style="list-style-type: none"> • Understanding the legal and political framework • How do we navigate? • 21st century environmentalism • Defining ‘equity’: Social, Economic & Environmental? • How to build social capital at global and local scales? • Thinking about Detroit as a 20th Century casualty and its rebuilding • Creating change • How to build trust and leadership? • Proposition 13 and its impacts (especially on you!) 	<p><i>Required Readings:</i> - review</p> <p>Examine the Congress for New Urbanism Website</p> <p>Examine the Streetfilms website.</p> <p>Examine the Detroit Future City Executive Summary</p> <p>State of California Legislative Analyst Report on Proposition 13 published 2016</p> <hr/> <p><i>Recommended Readings:</i></p> <p>Dannenber, A.L., et al. (2008). Use of Health Impact Assessment in the U.S. 27 Case Studies, 1999–2007. <i>American Journal of Preventive Medicine</i>. 34(3):241–25</p>
<p>Week 10 Mar.14</p>	<p>1. <u>Lecture & Discussion:</u> <u>PART 2: Understanding ‘The System’ and Building Social Capital</u></p> <p>2. <u>Lecture & Discussion:</u> <u>Threat of Success; “Health Washing” and Power</u></p> <ul style="list-style-type: none"> • Future of BEPH • What is success globally? Locally? • Who holds ‘power’? What is it? • How does ‘power’ manifest? • Defining and seeking justice • How to create a culture shift? 	<p>1. Complete Course Evaluations</p> <hr/>

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