School of Public Health
Syllabus and Course Information

UNIVERSITY OF MINNESOTA
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PubH 6100
Topics in Public Health: Design Thinking: An Innovative Approach to Addressing Public Health Challenges.
Fall 2016

Credits:	1
Meeting Days:	Monday: Combination of class time and field work
Meeting Time:	3:00 pm – 4:00 pm
Meeting Place:	1155 Mayo
Instructor:	Jess Roberts, Principal Design Strategist Allina Health, Division of Applied Research Affiliate Assistant Professor, Division of Environmental Health Sciences, School of Public Health
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Instructor:	Petrona Lee, Ph.D., Lecturer Division of Environmental Health Sciences, School of Public Health
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Instructor:	Elizabeth Wattenberg, Ph.D., Associate Professor Division of Environmental Health Sciences, School of Public Health
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Office Hours:	send an e-mail message to the instructor to schedule an appointment

I.   Course Description

This course description acts as a framework for the design thinking coursework. Given the nature of design thinking and the innovation process, curriculum may be adapted during the semester in response to student and project needs. No two group projects will be the same.

The course is intended for students interested in cross-sector collaboration and integration of knowledge from coursework and other experiences. Students will apply their knowledge and skills to practical projects based in Twin Cities communities along the Green Line.

> Launched in 2014, the Metro Transit Green Line runs between Minneapolis and St. Paul and right through the heart of the University of Minnesota Twin Cities campus. It traverses some of the most diverse areas in the Twin Cities, and includes communities that vary vastly in affluence and opportunity.

> Many public health challenges exist in the communities along the Green Line, including aging populations with complex health care issues; infectious diseases; health equity issues; environmental problems; nutrition and maternal and child health problems; and safety and injury issues.

Students will learn how to apply "design thinking," a proven and easily accessible framework for problem-solving, to public health challenges. By using the design thinking framework, students can uncover and develop effective solutions guided by people in the communities where the public health challenges exist.

Design thinking prioritizes engagement with the communities experiencing the challenges. Diverse and collaborative project teams will develop small and iterative prototyping of potential solutions, based on insights from the people living with, and having the most at stake in, addressing the challenges.

This course offers students "in-the-field" experience and learning by working directly with community members; nonprofit organizations; SPH alumni; and leaders from public health, government, and healthcare.

This course is the first part of a two-semester course. During this semester students will learn the values of creativity, the design thinking approach, engagement practices, scaling and reframing, diagramming and storytelling, and prototyping to test assumptions.

Small interdisciplinary teams of students will create compelling, humane, and actionable problem statements or design challenges, and evaluation plans. These will serve as the foundation for the second part of the course, which is offered the following semester.

During Part II (and guided by the insights derived in Part I), multi-disciplinary teams of students will co-develop and refine, through iterative prototyping, multi-faceted solutions to problem statements identified in Part I. The deliverable for Part II will be novel, tested, tangible, and implementable solutions that have a reasonable chance for sustainability.

Please note:

- The outcomes of the full-year course can serve as the culminating experience, or "capstone project," for the MPH degree, with approval by the student's program.

- It is most beneficial for students to take the both Part I and Part II. Students may choose to take the first semester (Part I), but not the second semester (Part II). With some additional work students may take only the second semester (Part II). In either case, students will need the permission of their program advisors to determine whether taking either Part I alone or taking Part II alone may serve as the culminating experience for the MPH.

II.   Course Prerequisites

MPH, MS, and PhD students in Public Health who have completed at least two semesters of course work; Graduate or Professional students in other programs who are interested in addressing community issues; permission of the instructors.

III. Course Goals and Objectives

Goals: By the end of Part I students will have learned creative problem-solving skills and human-centered innovation processes. The skills and processes should be applicable to persistent and complex (also known as 'wicked') public health challenges. Other goals for students in the class include the following:

1. Understanding the Design Thinking Framework and how it can be applied to public health challenges

2. Building and managing community and client organization relationships

3. Uncovering and investigating community concerns and projects along the Green Line

4. Identifying, reframing, and developing design challenges and shared evaluation criteria in preparation for Part II of the course

5. Investigating and learning whether similar challenges (or similarly complex challenges) have been successfully addressed in other communities or other sectors

6. Applying compelling communication strategies (diagramming and storytelling)

Objectives: By the end of the semester, students will be able to do the following:

• Apply the theory of Design Thinking to public health challenges.

• Use their skills and knowledge to identify and communicate public health concerns from the perspective of those living in the communities along the Green Line.

• Have a deep understanding of community members and their underlying needs and values-- especially those typically under-represented in current approaches--by having engaged community members through a variety of methods (interviews, photography, diagraming, personal experiences, recordings, self-documentation, writing).

• Collaborate with other students who have varied perspectives and areas of expertise to formulate and prioritize community concerns and provide opportunities for change.

• Seek consultation from and establish collaborations with members and leaders of various communities, organizations, and agencies to develop innovative approaches to community engagement, problem-seeking (and reframing), and problem-solving in local communities.

• Create compelling narratives and presentations through visual communication and storytelling.

IV. Methods of Instruction and Work Expectations

This is an experiential and community-based course that involves teamwork and collaboration with students with diverse backgrounds, community organizations, faculty, SPH alumni and policy and healthcare leaders. Students will spend the first four weeks of this course in the classroom learning about, and practicing, creativity and the Design Thinking Framework. The following weeks will be spent mainly in the community where students will develop and reframe an understanding of community concerns, and where they will meet with members and leaders of various communities and organizations.

To receive a passing grade (S), students need to accomplish the following:

• Participate in and contribute to in-class assignments
• Practice teamwork (peer assessment)
• Submit four *work plans and responsibilities* throughout the semester (Team)
• Submit four *reflections;* three on work in progress plus a final reflection (Individual)
• Participate in and contribute to team project reviews with stakeholders
• Complete the final team project and participate in and contribute to the presentation of the final project

Guidelines for the *work plans and responsibilities* and the *reflections* are posted on the Moodle site.

V. Course Text, Readings and Video

Required:

R1: Solutions That Stick: Activating Cross-Disciplinary Collaboration in a Graduate-Level Public Health Innovations Course at the University of California, Berkeley. J. S. Sandhu, R. Hosang, and K. A. Madsen. *American Journal of Public Health*. Supplement 1, Vol. 105, No. S1: S73-S77 (2015). Available online through the U of M libraries.

R2: Brown, Tim. "**Designers -- think big!**" TED: Ideas worth spreading. N.p., n.d. Web. 15 Apr. 2014. http://www.ted.com/talks/tim_brown_urges_designers_to_think_big.html.

R3: A Design Thinking Framework for Healthcare Management and Innovation. J. P. Roberts, T. R. Fisher, M. J. Trowbridge, and C. Bent. *Healthcare*, Volume 4, Issue 1, Pages 11-14 (2016). Available online through the U of M libraries.

R4: Minnesota Department of Health. **Healthy Communities Count! Indicators of Community Health along the Central Corridor Light Rail Transit (LRT) Route.** September 28, 2010. http://www.health.state.mn.us/divs/eh/hazardous/lightrail/report.pdf.

IDEO **Field Guide to Human Centered Design.** Download at**:** http://www.designkit.org/resources/1/

Recommended:

Brown, Tim, and Barry Kātz. **Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation**. New York: Harper Business, 2009. On reserve at the Bio-Med Library.

Cross, Nigel. **Design Thinking: Understanding How Designers Think and Work**. Oxford: Berg, 2011. On reserve at the Bio-Med Library.

Bennett, Kevin. "**Design Thinking: Creating a Better Understanding of Today to Get to a Better Tomorrow**." Forbes (2013): n. pag. Web. 6 Apr. 2014. http://www.forbes.com/sites/ darden/2013/08/29/design-thinking-creating-a-better-understanding-of-today-to-get-to-a-better-tomorrow/

Martin, Roger L. "The innovation catalysts." *Harvard Business Review* 89(6) (2011): 82-87. Available online through the U of M libraries.

 "**David Kelley: Human-centered design | Talk Video | TED.**" TED: Ideas worth spreading. N.p., n.d. Web. 4 Mar. 2014. https://www.ted.com/talks/david_kelley_on_human_centered_design?language=en

PolicyLink. **"Healthy Corridor for All: A Community Health Impact Assessment of transit-Oriented Development Policy in Saint Paul, Minnesota."** 2012. https://www.policylink.org/sites/default/files/HEALTHYCORRIDOR_SUMMARY_FINAL_20120111.PDF.

VI. Course Outline/Weekly Schedule

Week	Topics/Learning Objectives	Readings	Assignments/Activities
1 Sept 12	▪ Course overview ▪ Introduction to design thinking and creativity ▪ Team project framing	R1, R2	In-class activity: Creativity/empathy assignment
2 Sept 19	▪ Guest lecture on design thinking Professor Tom Fisher, Director, Metropolitan Design Center ▪ Overview of design thinking framework – empathy + empathy assignment and creative documentation.	R3, HCD Toolkit pp. 1-26	In-class activity: Green Line Empathy assignment
3 Sept 26	▪ Overview of design thinking framework – rapid collaboration and rapid prototyping ▪ Reframing problems and creating human-centered design challenges ▪ Discuss approach and tools for empathy, inspiration, UNI framing and HMW questions	HCD Toolkit pp. 27-47	In-class activity: Green Line empathy presentations (in small groups) and materials due Day-to-day rapid prototyping assignment Receive list of problem statements: Submit ranking of problem statements by Thursday, September, 29
4 Oct 3	3:00 pm: Overview of protection of human subjects, representative from the U of M Institutional Review Board 3:30 pm: History of the Rondo Community, Ms. Vickki Sanders, Rondo Community Action Group and Department of Labor and Industry Expectations and process for field work and engaging with problem sponsor	HCD Toolkit pp. 48-69	UNI framing and HMW questions for Green Line empathy work due Meet your design team Develop 3-week "empathy" work plan and responsibilities. Submit as a Team: due Wednesday, October 5
5 Oct 10	▪ Field work	R4 pp. 1-22	In-field work
6 Oct 17	▪ Field work	R4 pp. 23-38 HCD Toolkit pp. 70-74	In-field work Reflection 1 is due
7 Oct 24	▪ Review progress with class and collaborators/stakeholders	R4 pp. 39-61	Team project presentations Develop 3-week work plan and responsibilities. Submit as a Team: due Wednesday, October 26

8 Oct 31	▪ Field work		In-field work
9 Nov 7	▪ Field work	HCD Toolkit pp. 75-84	In-field work Reflection 2 Due
10 Nov 14	▪ Review (progress report) with class and collaborators/stakeholders	HCD Toolkit pp. 85-93	Team project presentations Develop 3-week work plan and responsibilities. Submit as a Team: due Wednesday, November 17
11 Nov 21	▪ Field work	HCD Toolkit pp. 97-104	Research analogous scenarios In-field work
12 Nov 28	▪ Field work	HCD Toolkit pp. 105-118	In-field work Reflection 3 due
13 Dec 5	▪ Practice final review with class	HCD Toolkit pp. 119-131	Team project presentations Develop refinement plan and responsibilities Submit as a Team: due Wednesday, December 8
14 Dec 12	▪ Final review with class and collaborators/stakeholders		Team project presentations Final paper/recommendations due Friday, December 16 Final reflection due Friday, December 16

Important dates and deadlines

Week	Assignment/Activity	Due Date
Week 1: Sept 12		
Week 2: Sept 19		
Week 3: Sept 26	Receive list of problem statements Green Line empathy presentations (in small groups) and materials due	Monday, September 26
	Ranking of problem statements due Email ranking to watte004@umn.edu	Thursday, September 29
Week 4: Oct 3	UNI framing and HMW questions for Green Line empathy work due	Monday, October 3
	3-week "empathy" work plan and responsibilities due Submit via Moodle	Wednesday, October 5
Week 5: Oct 10		
Week 6: Oct 17	Reflection 1 is due Submit via Moodle	Monday, October 17
Week 7: Oct 24	Project team presentations and review	Monday, October 24
	3-week work plan and responsibilities due Submit via Moodle	Wednesday, October 26
Week 8: Oct 31		
Week 9: Nov 7	Reflection 2 is due Submit via Moodle	Monday, November 7
Week 10: Nov 14	Project team presentations and review	Monday, November 14
	3-week work plan and responsibilities due Submit via Moodle	Wednesday, November 17
Week 11: Nov 21		
Week 12: Nov 28	Reflection 3 is due Submit via Moodle	Monday, November 28
Week 13: Dec 5	Practice final review with class	HCD Toolkit pp. 119-131
	Refinement plan and responsibilities due Submit via Moodle	Wednesday, December 8
Week 14: Dec 12	Team project presentations	Monday, December 12
	Final paper/recommendations due Final reflection due Submit via Moodle	Friday, December 16

VII. Evaluation and Grading

Course grades will be determined by the following:

This course in only offered S/N. S Represents achievement that is satisfactory.

To receive a passing grade (S), students need to accomplish the following:

- Participate in and contribute to in-class assignments
- Practice teamwork (peer assessment)
- Submit four *work plans and responsibilities* throughout the semester (Team)
- Submit four *reflections;* three on work in progress plus a final reflection (Individual)
- Participate in and contribute to team project reviews with stakeholders
- Complete the final team project and participate in and contribute to the presentation of the final project

For additional information, please refer to:
http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html.

Course Evaluation
The SPH will collect student course evaluations electronically using a software system called CoursEval: www.sph.umn.edu/courseval. The system will send email notifications to students when they can access and complete their course evaluations. Students who complete their course evaluations promptly will be able to access their final grades just as soon as the faculty member renders the grade in SPHGrades: www.sph.umn.edu/grades. All students will have access to their final grades through OneStop two weeks after the last day of the semester regardless of whether they completed their course evaluation or not. Student feedback on course content and faculty teaching skills are an important means for improving our work. Please take the time to complete a course evaluation for each of the courses for which you are registered.

Incomplete Contracts
A grade of incomplete "I" shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time. The assignment of an "I" requires that a contract be initiated and completed by the student before the last official day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student in consultation with the instructor, will specify the time and manner in which the student will complete course requirements. Extension for completion of the work will not exceed one year (or earlier if designated by the student's college). For more information and to initiate an incomplete contract, students should go to SPHGrades at: www.sph.umn.edu/grades.

University of Minnesota Uniform Grading and Transcript Policy - A link to the policy can be found at onestop.umn.edu.

VIII. Other Course Information and Policies

Grade Option Change (if applicable)
For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester courses) can be found at onestop.umn.edu.

Course Withdrawal
Students should refer to the Refund and Drop/Add Deadlines for the particular term at onestop.umn.edu for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Office of Admissions and Student Resources at sph-ssc@umn.edu for further information.

Student Conduct Code
The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see:
http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf.

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

Use of Personal Electronic Devices in the Classroom
Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference:
http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html.

Scholastic Dishonesty
You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code:
http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, he or she may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see:
http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html.

The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: http://www1.umn.edu/oscai/integrity/student/index.html. If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Makeup Work for Legitimate Absences
Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see:
http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html.

Appropriate Student Use of Class Notes and Course Materials
Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom

community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see: http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html.

Sexual Harassment
"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf

Equity, Diversity, Equal Opportunity, and Affirmative Action
The University will provide equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO_AA.pdf.

Disability Accommodations
The University of Minnesota is committed to providing equitable access to learning opportunities for all students. Disability Services (DS) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DS at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with DS and have a current letter requesting reasonable accommodations, please contact your instructor as early in the semester as possible to discuss how the accommodations will be applied in the course.

For more information, please see the DS website, https://diversity.umn.edu/disability/.

Mental Health and Stress Management
As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: http://www.mentalhealth.umn.edu.

The Office of Student Affairs at the University of Minnesota

The Office for Student Affairs provides services, programs, and facilities that advance student success, inspire students to make life-long positive contributions to society, promote an inclusive environment, and enrich the University of Minnesota community.

Units within the Office for Student Affairs include, the Aurora Center for Advocacy & Education, Boynton Health Service, Central Career Initiatives (CCE, CDes, CFANS), Leadership Education and Development –Undergraduate Programs (LEAD-UP), the Office for Fraternity and Sorority Life, the Office for Student Conduct and Academic Integrity, the Office for Student Engagement, the Parent Program, Recreational Sports, Student and Community Relations, the Student Conflict Resolution Center, the Student Parent HELP Center, Student Unions & Activities, University Counseling & Consulting Services, and University Student Legal Service.

For more information, please see the Office of Student Affairs at http://www.osa.umn.edu/index.html.

Academic Freedom and Responsibility: for courses that do not involve students in research

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

OR:

Academic Freedom and Responsibility, for courses that involve students in research

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom and conduct relevant research. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.* When conducting research, pertinent institutional approvals must be obtained and the research must be consistent with University policies.

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

* Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".

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