

Syllabus

Built Environment: Design Solutions for Public Health

Course Name (Chinese)	建成环境设计与公共健康		
Course Name (English)	Built Environment: Design Solutions for Public Health		
Course Number	50001630015	Language	English
Credits	1	In-class Hours	18
Course Type	Elective Courses	Examination/Evaluation	Evaluation
Prerequisite Courses	N/A		
Availability of English courses	Yes		
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1. Course Orientation and Requirements

1. Course Orientation

This course is an English elective course for undergraduate students in urban and rural planning major and beyond. It is intended for 3rd-4th year undergraduate students in urban and rural planning, architecture, and landscape architecture. The course systematically teaches knowledge in the fields of the built environment and public health, guiding students to consider the health impacts of the urban and rural built environment and health-oriented planning and design strategies. It includes the exploration of a series of interdisciplinary issues in urban and rural planning and public health: Are there significant associations between built environment elements and population health? Can the built environment be planned and designed in such a way as to improve health? What are the key health issues that the field of urban and rural planning should focus on? How can the needs of different populations for the built environment and their potential health effects be considered? Does the inclusion of health issues in the planning and design process always add value? How can the health impacts of planning and design projects be evaluated?

2. Course Objectives

This course aims to utilize an interdisciplinary framework for understanding the relationship between the built environment and public health and seeks to enable students to identify urban health issues, assess the health impacts of the built environment, and address existing health issues through planning and design strategies.

Course objective 1: Understand the basic concepts related to public health and the interaction and evolution of urban planning throughout history.

Course objective 2: Identify the elements of the built environment that affect population health at different spatial scales and actively perceive the health and safety impacts of these elements on different populations.

Course objective 3: Be familiar with methods for analyzing the interrelationships between the built environment and public health, and the strengths and limitations of these methods.

Course objective 4: Understand, analyze, and evaluate research related to health and space and articulate their critical view of the relationship between health and space.

3. Indicators of Graduation Requirements Supported by the Course

Serial No.	Indicators of Graduation Requirements	Contents
1	Indicator 1-1	Have advanced political ideological awareness, scientific worldview, correct outlook on life, sound personality, and good moral cultivation.
2	Indicator 1-2	Have a strong sense of social responsibility and a broad international perspective, based on the reality of our country, and establish the right ideals and beliefs.
3	Indicator 1-4	Have good interpersonal skills, teamwork spirit and ability, good language communication, and foreign language application skills.
4	Indicator 1-5	Have basic aesthetic literacy, artistic expression, and basic knowledge of the humanities, social and artistic sciences.
5	Indicator 2-3	Can think independently, with strong integrative, systematic, logical, and critical thinking.
6	Indicator 2-4	Have a strong ability to relate theory to practice, good at identifying problems, analyzing them, and solving them.
7	Indicator 3-2	Acquire the necessary basic knowledge and skills in disciplines related to urban and rural planning.
8	Indicator 3-5	Understand the new directions and progress of urban and rural research and planning in China and abroad.

4. Correlations between Course Objectives and Graduation Requirements

Course Objectives Graduation Requirements	Course objective 1	Course objective 2	Course objective 3	Course objective 4
Indicator 1-1	●			●
Indicator 1-2	●	●	●	●
Indicator 1-4				●
Indicator 1-5	●	●		

Course Objectives Graduation Requirements	Course objective 1	Course objective 2	Course objective 3	Course objective 4
Indicator 2-3		●	●	●
Indicator 2-4		●	●	●
Indicator 3-2	●	●	●	●
Indicator 3-5	●	●	●	●

2. Course Content, Teaching Requirements, Credit Hour Allocation, and Teaching Methods

The course includes four units: 1) foundations of the built environment and public health; 2) built environment elements that affect health; 3) vulnerable populations and health disparities; and 4) course summary. The first unit focuses on the basic concepts, linkages, and historical development of the two fields of urban planning and public health. It first clarifies the distinction between individual health and population health, describes the built environment as one of the upstream factors affecting population health, and lays the foundation for understanding and evaluating the various lines of evidence linking the built environment and health. It then reviews key events in the evolution of the disciplines of urban planning and public health from a historical perspective, leading students to consider the role that changing public health perspectives and theories of disease causation have played in the development of cities and the evolution of the disciplines. The second unit covers the health impacts of built environment elements and how built environments can be shaped to address health issues through planning and design tools. The main perspectives include reducing environmental risks, maintaining energy balance, improving mental health, and promoting safe accessibility. This unit focuses on training students to understand empirical research and to develop evidence-based design thinking. The third unit focuses on different populations, their environments, and related health disparities, exploring how improvements in the built environment can promote health across the age range and reduce health disparities due to socioeconomic factors. The course will conclude with a roundtable discussion that integrates the knowledge points, summarizes the methods of empirical research, and discusses the frontiers of this interdisciplinary area, laying the foundation for students to continue their studies and research in the field in the future.

This seminar-style course consists of pre-class readings and article reviews, in-class lectures and discussions, and post-class assignments. Specifically, the instructor assigns two articles that are highly relevant to the topic of the class: a review article to provide students with a comprehensive understanding of the topic in a short period, and an empirical research article to provide students with an understanding of the research process and methodology for the topic. Based on a close reading, students make a chart of the review article describing previous research evidence and how elements of the built environment affect health outcomes, including exposure

and outcome measures, confounding factors, pathways of influence, etc.; a written paper critique (1-2 pages) of the empirical research article, including an overview of the article's purpose and main arguments, strengths and weaknesses in terms of the theoretical framework, research questions, methodology, evidence, conclusions, and potential applications of the findings to planning and design. The two forms of review allow students to have a general understanding of what will be taught in class in advance, facilitating the interactions in class. Before the lecture, the instructor assigns a 1-min note in which students are asked to anonymously take one minute at the end of class to quickly record any questions, comments, ideas, thoughts, suggestions, etc. that arise during the lecture. The instructor will spend 10-15 minutes at the beginning of the next class responding to students' questions and comments to deepen their understanding of the course content.

There are 18 hours of in-class lectures and seminars and about 1.5 times as many hours outside of class for students to complete the readings and written comments, case studies, and research proposals developed by the instructor.

No.	Knowledge Modules	No.	Knowledge/Competency Points	Requirements	Supported course objectives	Teaching Methods	In-class Hrs	Extracurricular Hrs
1	Foundations of the built environment and public health	1	Course Description: Health Challenges and Planning Design Responses	Understand	Course objective1	PPT	4	6
		2	Historical perspective: health-related planning events and theories	Acquaintance				
2	Built environment elements that affect health	3	Environmental risks: air, water, soil, noise, climate change	Master	Course objective 2、3	PPT, Group discussion	8	12
		4	Energy balance: physical activity and food environment	Master				
		5	Mental health: blue-green space and biophilic design	Master				
		6	Safety and accessibility: transportation, streets, and infrastructures	Master				
3	Vulnerable populations and health disparities	7	Health equity: social capital and environmental justice	Master	Course objective 2、3	PPT, Group discussion	4	6
		8	All age-friendly: children and seniors	Master				

No.	Knowledge Modules	No.	Knowledge/Competency Points	Requirements	Supported course objectives	Teaching Methods	In-class Hrs	Extracurricular Hrs
4	Course summary	9	Roundtable discussion: research methods and frontier developments	Acquaintance	Course objective 3、4	Group discussion, Presentation	2	3

3. The connotation of "moral education" in the curriculum

"Healthy China" has been elevated to a national strategy in China. The State Council proposed in the "Healthy China 2030" planning outline to "take the construction of healthy cities and healthy towns and villages as an important approach to promote the construction of healthy China, to integrate health into the whole process of urban and rural planning, construction and governance, and to promote the coordinated development of cities and people's health. ." General Secretary Xi also clearly pointed out that people's life safety and health are the essential goals of urban development in "Some Major Issues of National Medium and Long-term Economic and Social Development Strategy". This course will guide students to systematically understand complex health issues in cities (chronic diseases, infectious diseases, mental health, health equity), actively respond to national strategies in planning and design, and cultivate innovative interdisciplinary talents with theoretical foundation, professionalism, and skill sets in both urban and rural planning and public health.

4. Assessment, grading methods, and retake requirements

Two assignments are planned for this course: a case study and a research proposal. The case study will address an urban health issue, either by mapping and analyzing existing spatial data to compare differences in built environment exposures or the incidence of a disease in different areas, or by identifying potential health risks at a specific site through field sampling and interviews. Students are required to explain the process of data collection, and analysis and describe potential health effects through a short 2-3 page essay. The research plan then builds on this essay to propose a research design (either observational or experimental), including research questions, literature review, research methods, and technical route. Both assignments will be communicated using peer review, and the final score of the assignment will be composed of the quality of the student's work and the quality of their evaluation of their peers' work.

Assessment method	Percentage	Supported course objectives	Notes
Course participation	20%	Course objective 1	Attendance, completion of paper critiques, participation in the discussion in class.

Assessment method	Percentage	Supported course objectives	Notes
		Course objective 2	
		Course objective 3	
		Course objective 4	
Case study	30%	Course objective 2	Address an urban health issue, either by mapping and analyzing existing spatial data to compare differences in built environment exposures or the incidence of a disease in different areas, or by identifying potential health risks at a specific site through field sampling and interviews.
		Course objective 3	
		Course objective 4	
Research proposal	50%	Course objective 1	Propose a research design (either observational or experimental), including research questions, literature review, research methods, and technical route.
		Course objective 2	
		Course objective 3	
		Course objective 4	

5. Evaluation criteria

1. Evaluation criteria for course participation

Supported course objectives	Evaluation details and score				
	100-90	89-80	79-70	69-60	59-0
Objectives 1-4	Full attendance; completion of all paper critiques; active participation in Q&A.	1 absence; 1 missed paper critique; less active participation in Q&A.	2 absences; 2 missed paper critiques; participation in Q&A.	3 absences; 3 missed paper critiques; few participations in Q&A.	4 or more absences; 4 or more missed paper critiques; no participation in Q&A.

2. Evaluation criteria for case studies

Supported course objectives	Evaluation details and score				
	100-90	89-80	79-70	69-60	59-0
Objectives 2-4	Submitted on time; analysis of problems in a clear and	Submitted on time; analysis of problems in a less clear	Submitted on time; analysis of problems in	Short late submission; analysis of problems with	Severe overtime late or not submitted; analysis of the

Supported course objectives	Evaluation details and score				
	100-90	89-80	79-70	69-60	59-0
	organized manner; reasonable methods; accurate and detailed data; correct and clear textual presentation of drawings.	and organized manner; less reasonable methods; accurate and detailed data; full and clear textual presentation of drawings.	an organized manner; right methods; full data; clear textual presentation of drawings in general.	some confusion; the method has some problems; data are partially missing; the textual representation of the drawings is complete.	problem is not clearly organized; unreasonable methods; obvious missing data; unclear and incomplete textual representation of drawings.

3. Evaluation criteria for research proposals

Supported course objectives	Evaluation details and score				
	100-90	89-80	79-70	69-60	59-0
Objectives 1-4	Submitted on time; clear research questions; ability to review relevant literature and identify knowledge gaps; appropriate research methods; clear and feasible technical route; appropriate writing.	Submitted on time; less clear research questions; ability to review relevant literature; less appropriate research methods; less clear and feasible technical route; less appropriate writing.	Submitted on time; research questions are basically clear; can review some relevant literature; research methods are basically reasonable; technical lines are feasible; writing is basically appropriate.	Short late submission; research question is fair; can list relevant literature; research method is fair; the technical route is fair; writing is fair.	Severe overdue or non-submission; unclear research questions; lack of literature review; unreasonable research methods; infeasible technical routes; and inappropriate writing.

6. Textbooks and main reference books

Name of teaching book	Authors	Press	Edition	ISBN	Textbook situation	Textbook/Main reference books
The built environment and public	Lopez, Russell	John Wiley & Sons	1	047062003X		Main reference book

Name of teaching book	Authors	Press	Edition	ISBN	Textbook situation	Textbook/Main reference books
health						
Making Healthy Places: Designing and Building for Health, Well-being, and Sustainability	Dannenberg, Andrew L.; Frumkin, Howard; Jackson, Richard J	Island Press	1	1-61091-036-2		Main reference book
Creating healthy neighborhoods: evidence-based planning and design strategies	Forsyth, Ann; Salomon, Emily; Smead, Laura	Routledge	1	1351179292		Main reference book
Urban health	Galea, Sandro; Ettman, Catherine; Vlahov, David	Oxford University Press	1	0190915862		Main reference book