

## Course Syllabus: ARCH 689 – Design and Healthy Living, Spring 2010

**Class Time:** Tuesday & Thursday, 11:10AM–12:25PM

**Classroom:** Room 403, Langford Building A

**Instructor:** Xuemei Zhu, Ph.D., Assistant Professor

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Email: xuemeizhu@tamu.edu, Phone: 845-3780

Office Hours: Tuesday 3:45PM–4:45PM, Wednesday 4:00PM-5:00PM

**Teaching Assistant:** Vahid Vahdat Zad, Ph.D. Student

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Email: vahid@tamu.edu, Office Hours: Thursday 12:30-2:00PM

*“We shape our buildings, and afterwards our buildings shape us.” (Churchill, 1943)*

### A. COURSE DESCRIPTION

**TOPIC:** This interdisciplinary course examines the relationship between physical environment and human behavior and health, with a specific focus on the promotion of sustainable and healthy lifestyles (e.g., walking and biking) through environmental design and planning. Students will be exposed to basic theoretical frameworks, evolving knowledge bases, and relevant professional practice in this area. The course incorporates knowledge from multiple disciplines, including architectural and urban design, urban planning, transportation, and public health, and addresses the lack of connections among these disciplines and professions. The discussion of the built environment ranges from buildings, communities, to cities, and is linked with issues of physical inactivity, obesity, and automobile dependency. A socio-ecological model is used as a basis to guide the discussion and to integrate perspectives from multiple disciplines.

**STRUCTURE:** This course is organized into three sections, including **(1) an INTRODUCTION of the background, (2) a review of RESEARCH literature on relevant theories, empirical evidence, and tools and measures, and (3) an examination of the PRACTICE in multiple disciplines** that promote healthy and active lifestyles. The “research” and “practice” sections will be introduced in a parallel manner, and will help to link the empirical evidence (research findings) with the design and planning practice.

**OBJECTIVE:** Student will learn to think outside their disciplinary box. By the end of the semester, students will be able to (1) understand the major trends, issues, and literature in architectural and urban design, urban planning, transportation, and public health, that deal with the relationship between built environment and physically active lifestyles; (2) interpret the potential impact that their discipline/profession may have on people’s health and well-being; and (3) improve their design and research skills by learning from the research and practice in this growing field.

With a multi-disciplinary perspective, this course welcomes both research- and design-oriented students, as well as students from different disciplines. The interaction among students will be encouraged through classroom discussion and collaborations on class projects. Students are expected to think critically and incorporate their unique perspectives into classroom discussions and the class projects.

**NOTE:** This course is an elective for the **Certificate of Health Systems and Design** and the **Certificate of Sustainable Urbanism**.

## B. PREREQUISITES

Graduate classification or instructor's permission.

## C. READING

**TEXTBOOK:** Frank LD, Engelke PO, & Schmid TL (2003). Health and Community Design: The Impact of the Built Environment on Physical Activity. Washington DC: Island Press.

**ADDITIONAL READINGS:** The COURSE SCHEDULE below also lists additional readings for this course, including journal articles, book chapters, and web resources. Journal articles and book chapters will be made available through eLearning at <http://elearning.tamu.edu/>.

### RESOURCES FOR CUSTOMIZED READING:


Frumppin H, Frank L, & Jackson R (2004). Urban Sprawl and Health: Designing, Planning, and Building for Healthy Communities. Washington DC: Island Press.


Special journal issues focusing on active living:


<http://www.activelivingresearch.org/alr/resourcesearch/journalspecialissues>

Website of Active Living Research: <http://www.activelivingresearch.org/>



## COURSE SCHEDULE





**Symbols:**  Assignments distributed by the instructor.

 Readings to be finished before the day of the class.



 Assignments due by 10am on the day of the class.

### SECTION 1: INTRODUCTION



Week 1: Overview of the Course	
Jan. 19	<ul style="list-style-type: none"><li>• Introduction of the course</li><li>• Past, present, and future of environment-health relationships</li></ul>  Assign photo diary
Jan. 21	<ul style="list-style-type: none"><li>•  Photo diary due</li><li>• Presentation of photo diaries</li><li>• Mapping and discussion</li></ul>

Week 2: Introduction to Active Living	
Jan. 26	 Frank et al., Chapter 1 & 2 <ul style="list-style-type: none"><li>• Introduction of active living research and practice</li></ul>  Assign disciplinary change story
Jan. 28	<ul style="list-style-type: none"><li>•  Disciplinary change story due</li></ul>  Saliis et al., 2006 <ul style="list-style-type: none"><li>• Discussion of disciplinary changes and readings</li></ul>

### – THEORIES, EVIDENCE, & MEASURES

Week 3: Architectural & Urban Design	
Feb. 2	 Frank et al., Chapter 6 & 9 <ul style="list-style-type: none"><li>• Literature linking architectural and urban design with active living</li></ul>
Feb. 4	 Environmental measurement tools – Review and critique

### – DESIGN & PLANNING FOR HEALTHY LIVING

Week 4: Architectural & Urban Design	
Feb. 9 (C 307)	 LEED for Neighborhood Development <ul style="list-style-type: none"><li>• Video: Social Life of Small Urban Spaces</li></ul>
Feb. 11	 Ewing et al., 2006  No class; work on peer-teaching

- Measurement of built environment: Survey, field audit, and GIS analysis
- 📁 Assign environmental evaluation exercise

proposal

- 🌟 Peer-teaching proposal due by the end of class

**Week 5: Urban Planning**

Feb. 16 📖 Frank et al., Chapter 8  
 📖 Ewing et al., 2003

- Literature linking urban planning with active living

Feb. 18 🌟 Environmental evaluation exercise due (C 307)

📖 Dumbaugh & Rae, 2009

- Safety and urban form (Guest lecture by Dr. Eric Dumbaugh)

**Week 6: Architecture, Urban Design, & Planning**

Feb. 23 📖 Frumpkin et al., Chapter 11

- Relevant practice in architecture, urban design, and urban planning

Feb. 25 📖 To be provided by the instructors of the day

- Peer-teaching #1
- 📁 Assign final project

**Week 7: Transportation**

Mar. 2 📖 Frank et al., Chapter 7

- Transportation literature and measurement of non-motorized transportation

Mar. 4 📖 To be provided by the instructors of the day

- Peer Teaching #2

**Week 8: Transportation**

Mar. 9 📖 Website of National Complete Streets Coalition

- Relevant practice in transportation

Mar. 11 🌟 Proposal for final project due

📖 To be provided by the instructors of the day

- Peer Teaching #3

**Week 9: No Class**

Mar. 16 Spring Break

Mar. 18 Spring Break

**Week 10: Public Health**

Mar. 23 📖 Frank et al., Chapter 3 & 4

- Public health and active living

Mar. 25

- Measurement of physical activity
- 📁 Assign behavior measurement exercise

**Week 11: Theories**

Mar. 30 🌟 Annotated outline for final project due

📖 US Surgeon General Report 1996, selected chapters

- Relevant theories

Apr. 1 📖 To be provided by the instructors of the day

- Peer Teaching #4

**Week 12: Disparity in Environment & Health**

Apr. 6 🌟 Behavior measurement exercise due

📖 Gordon-Larsen et al., 2006

- Active living for poor people and people with color

Apr. 8 (C 307) 📖 To be provided later

- Deprivation amplification and rural environments for active living (Guest Lecture by Dr. Michael Edwards)

<b>Week 13: Specific Populations</b>	
Apr. 13 (C 307)	<ul style="list-style-type: none"> <li>📖 Frank et al., Chapter 5</li> <li>📖 Susan et al., 2008</li> <li>• Designing Outdoor Space to Improve Health and Physical Activity of Seniors (Guest lecture by Dr. Susan Rodiek)</li> </ul>
Apr. 15	<ul style="list-style-type: none"> <li>📖 Zhu &amp; Lee, 2008 &amp; 2009</li> <li>• Active living for children</li> </ul>

<b>Week 14: Final Presentation &amp; Discussion</b>	
Apr. 20	• Presentation and review of research papers – Part I
Apr. 22	• Presentation and review of research papers – Part II

<b>Week 15: Final Presentation &amp; Discussion</b>	
Apr. 27	• Presentation and review of design guidelines – Part II
Apr. 29	• Presentation and review of design guidelines – Part II

<b>Week 16: Final Presentation &amp; Discussion</b>	
May. 7	📌* Final research paper/design guideline due at 5pm
<b>Have a great summer!</b>	

**E. ASSIGNMENTS**

Assignments that will be graded include (1) an environmental evaluation exercise. (2) a behavior measurement exercise, (3) peer teaching, and (4) the final project – a research paper (for research-oriented students) or a design guideline (for design-oriented students). Students will choose their specific topics based on their background and interest. In addition, there are two mini-assignments that will not be graded, including a photo diary and a disciplinary change story.

**F. PERFORMANCE EVALUATION**

Your performance will be evaluated based on the following components:

Class participation and discussions	15%
Environmental evaluation exercise	10%
Behavior measurement exercise	10%
Peer teaching	15%
Final project (in the format of research proposal, literature review, or design guidelines, as selected by the student)	
Project proposal	5%
Annotated project outline	10%
Final presentation	15%
Final report	20%
<b>TOTAL:</b>	<b>100 points</b>

The final semester grade will reflect all of your work through the course of the semester and will use the following standards.

A: 90-100 points; B: 80-89 points; C: 70-79 points; D: 60-69 points; F: 0-59 points

This course emphasizes active and participatory learning through interactions. You are expected to be present each class day and to fully participate in all discussions and class activities. Students who are requesting an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. The list of official excused absences can be found at: <http://student-rules.tamu.edu/rule7.htm>. To qualify for an excused absence, you must present an official note

explaining the absence, either from a doctor, university official, or other appropriate authority. More than three unexcused absences will lead to a failure in this class.

Late or incomplete work will not be accepted, unless a University Excused Absence was granted by the professor.

#### **G. STUDENTS WITH SPECIAL NEEDS**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit <http://disability.tamu.edu>.

#### **H. ACADEMIC INTEGRITY STATEMENT**

*An Aggie does not lie, cheat, or steal or tolerate those who do.* For further information on the Aggie Honor Code, please refer to the Honor Council rules and procedures on the following website: <http://www.tamu.edu/aggiehonor>.

#### **I. ACKNOWLEDGEMENT**

The instructor thanks Dr. Chanam Lee from the Department of Landscape Architecture and Urban Planning at Texas A&M University for sharing her class syllabus.