

Updated: March 2023

NUTC 0212: Developing Equitable, Inclusive Community Environments for Physical Activity Summer 2023

Welcome to NUTC 0212!

Welcome to NUTC 0212: Developing Equitable, Inclusive Community Environments for Physical Activity! We are looking forward to a dynamic and engaging semester learning about equitable community design to support physical activity for all people. We are Mark Fenton and Becca Boulos. We've been teaching this course for just about 10 years together. We love teaching this course because it gives us a chance to meet community advocates who care about supporting physical activity in their communities. We also love the networking and engagement that is natural to this course. On the course Canvas site, we have both posted welcome videos so you can learn more about us and our career paths. We are looking forward to working with all of you this semester. Please note that this syllabus reflects a plan for the semester. Changes may become necessary as the semester progresses.

Diversity Statement

To maximize student experiences in the classroom, we use material that is respectful of diversity and inclusion. Moreover, we enter this space understanding that an essential and important part of this course is the diversity of student experiences and perspectives, which will maximize our learning as we progress through the semester.

In an ideal world, science would be objective. However, much of science is subjective and is historically built on a small subset of privileged voices. We acknowledge it is possible there may be both overt and covert biases in the material due to the lens with which it was written, even though the material is primarily of scientific nature. Integrating a diverse set of experiences is important for a more comprehensive understanding of science. Please contact us if you have any suggestions to improve the quality of course materials.

Respect for Diversity: It is our intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is our intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let us know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let us know so we can make arrangements for you.

We are committed to creating a course that is inclusive in its design. If you encounter barriers, please let us know immediately so we can determine if there is a design adjustment that can be made or if an accommodation might be needed to overcome the limitations of the design. We are always happy to consider creative solutions if they do not compromise the intent of the assessment or learning activity. We welcome feedback that will assist us in improving the usability and experience for all students.

Wellness Statement

As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. There are <u>confidential resources</u> available at Tufts that can assist you in managing these challenges. If you feel like your performance in class is being impacted by your experiences outside of class, please talk with us. We want to be a resource for you.

Important Information:

Class Meetings: Online, primarily via Canvas

Instructor(s): Mark Fenton, MS (he/him/his), mark.fenton@tufts.edu

Rebecca Boulos, MPH, PhD (she/her/hers), rebecca.boulos@tufts.edu

Teaching Asst.: N/A

Semester Hour Units: 3

Prerequisites: None

Course Communications:

We appreciate hearing from students. Please email us and we will respond within 48 hours.

Office Hours:

Instructors: As needed. Please email us and we will respond within 48 hours.

Course Summary:

In this course, we will discuss how policy, environmental and systems change interventions in support of physical activity have the potential to improve health equity for large segments of the population. Physical activity measurement, epidemiology, and recommended guidelines will be outlined, and the socio-ecological model will frame the evidence for systems-based approaches to population physical activity. Students will learn about key elements of the built environment that support routine activity, such as land use plans and zoning, and transportation networks and funding. Throughout, we will explore how inequitable distribution of these policies and infrastructures have adversely impacted disadvantaged segments of the population often based on race, age, disability, income, and other demographic factors, and how these may be remedied. When appropriate, policy approaches to improved nutrition will be included (e.g., land use practices to preserve farmland, local ordinances supporting urban agriculture or limiting fast food establishments). The result will be a broad understanding of the evidence- and best practice-based approaches to healthy and equitable community development.

Course Goals:

The primary purpose of this course is to teach students how social, policy, and environmental systems work together to influence access to and availability and use of spaces that support physical activity. Students will learn about: the epidemiology and measurement of physical activity; how to read, interpret, and use different types of evidence related to physical activity, including peer-reviewed journals, policy briefs and national guidelines; theoretical frameworks used to guide behavioral interventions, and how policies and practices at the local, state, and federal levels have historically and currently impact health disparities as they relate to chronic disease prevention and prevalence. By the end of this course, students will be able to explain how various factors in their community are influencing their and others' physical activity behaviors and will have written a proposal to address a problem of either personal or professional interest related to physical activity. More specifically, students will:

- 1. Apply tenets from the socio-ecological model to inform public health interventions related to physical activity.
- 2. Describe four broad characteristics of environments that are supportive of inclusive routine physical activity, and the strength of the evidence base for each.
- 3. Differentiate between the various specific and credible resources that provide guidelines, recommendations, or specific technical support for creating physical activity-supporting environments.
- 4. Classify specific policy approaches to developing equitable environments that support routine walking, cycling, and transit use, and the level of evidence in support of these approaches.
- 5. Develop specific, actionable, evidence- and best practice-based suggestions for an area or issue of personal or professional interest related to physical activity.

Texts or Materials:

All assigned readings listed on the schedule will be available for the duration of the semester on Canvas (as PDFs or via links), or via the Hirsch Health Sciences Library access system, in cases where finding the literature is not part of the assignment.

Required Materials:

- Digital Pedometer: A reliable, repeatable step counter is required, but it does not need to provide distance and
 calorie burn estimates. A telephone step counter, Fitbit or similar device, or a simple step counting pedometer is
 sufficient. If your phone has a step counting function, that can work well if you carry it with you all the time.
 Inexpensive pedometers such as the Yamax SW200 "digi-walker" or Accusplit AE120XL digital pedometer are also
 quite adequate.
- **Book**: Implementing Physical Activity Strategies: Put the National Physical Activity Plan into action with 42 proven programs. Russell Pate and David Buchner (Eds). Human Kinetics, 2014. Available from Human Kinetics (www.humankinetics.com) and Amazon, hard-cover, or digital form.

<u>Recommended Resources</u>: <u>Statistics manual</u> (accessible for free). If you are unfamiliar with statistics, this small manual is a great place to begin.

How to be Successful in this Course:

The course does not assume a technical background in public health or planning and is well-suited for interested professionals in public health promotion and policy development, and health agencies; planning, public works, parks and recreation, housing, transit, and transportation; school administration; economic and community development; elected and appointed officials; and advocates and citizens concerned with the public health of their community.

Assignments and Grading:

The assignments and discussion for this course are designed to allow you to practice and demonstrate that you understand the course and class objectives. They are both reflective and evaluative. Contributing to your final grade are:

- 1. Assignments & activities; responses to comments on submitted work (6 total, 10 points each) 35%
- 2. Participation in discussions thoughtful comments on classmates' contributions and follow-up on content discussed (e.g., sharing a discovered article or resource) 30%
- 3. Final paper 35%

Assignments & Activities

- 1. Assignment 1: Watch introduction videos (ungraded).
- 2. Assignment 2: Complete the "Getting to Know You" activity (ungraded).
- 3. Assignment 3: Complete the physical activity one-week recall diary. (CO #3)
- 4. Assignment 4: Wear a pedometer for one week <u>and</u> write a reflection about similarities/differences compared with the one-week recall (see assignment 3). (CO #3)
- 5. Assignment 5: Write a one-page evaluation of a real-world development policy or infrastructure project that might inequitably influence physical activity for the surrounding population. (A current example will be provided by the instructors.). (CO #4)
- 6. Assignment 6: Complete assigned definitions & acronyms. (CO #3)
- 7. Assignment 7: Complete Walkscore comparison of three different locations. (CO #4)
- 8. Assignment 8: Complete PhotoVoice. (CO #4)

<u>Discussions</u>: We learn through independent study, and we learn through interaction with others. Discussions are one of the best ways to get to know your colleagues and create connections that are otherwise challenging to create in the context of an online classroom. Discussion guidelines and questions relevant to a particular week's topic will be distributed ahead of

time, as necessary. Please remember to contribute in a professional and constructive way, particularly in the face of disagreement; as you know, nutrition and social environments can become very personal, very quickly. Students are expected to contribute to the discussion by responding to the comments of other students with thoughtful but concise questions, observations, relevant research, evidence, and resources. Brevity and focus in discussion postings is highly valued; no additional credit is given for lengthy contributions. Students are also expected to engage with each other in ongoing discussions of their own work. We expect courtesy and thoughtful consideration of others' views, with conciseness, clarity, and evidence. You don't have to write a lot, but you should write clearly and with focus, ideally making a point. We urge you to go beyond opinion and supposition; build a brief case for your point--cite evidence, observation, something you've read, relevant professional experience, etc. (CO #1, 2, 3, 4, 5)

	No credit		Partial credit	Full credit
Quality of posting	Postings are not relevant to the questions posed, or too simplistic/not thorough, or no posting at all.		Postings reflect the reading and some material from the lectures and/or textbook.	Postings reflect the assigned readings and materials from the lectures and/or textbook.
Quality of reply	Response not relevant to original posting, or no reply at all.		Response relevant to posting but fails to support position.	Response relevant to posting and supports position with factual information.
Understanding of reading and outside source material	Responds to the question posted but does not mention materials from the readings.		Responds to the question posted and references readings.	Responds to question posted and demonstrates understanding of assigned readings and lectures and other valid sources.
Timeliness of Posting	Posting or response was not completed on time.		Posting and response were completed on time.	
Discussion Grading				
0	1	2		3
no par	t, mostly opinion, ticularly unique at, or evidence	Multiple contribution points) OR a somew evidence-based contribution	hat unique or thread contribution	ughtful comments on others' Is AND making unique insights and evidence-based arguments/observations

<u>Final Project and Presentation</u>: Students will write a final two-page (~1,000 words) "application plan" and record an accompanying, short (~5 minutes, no longer than 6 minutes) presentation. The plan should be formally written and structured and <u>include citations and references</u> to class readings or equivalent resources discovered during the course. (CO #5)

For this plan, students will:

- 1. Identify a physical activity-related problem in their community that they would like to address.
- 2. Identify key stakeholders who will be affected by changes related to this public health problem.
- 3. Apply concepts and lessons learned in the class to identify specific policy or procedural steps, or specific actions that will be taken, and the anticipated outcomes, keeping stakeholders' interests in mind.

Final Project Grading Criteria:

1. Content: The plausibility of the plan, and quality of evidence and practical guidance supporting the student's approach will be evaluated, as will the student's ability to synthesize concepts learned throughout the semester, and to utilize them in a systematic way, demonstrating an equitable impact on physical activity levels

- to include those populations at greatest risk for physical inactivity. The written document will also be evaluated for organization, clarity, and succinctness, including appropriate use of references.
- 2. Presentation: The presentation will be considered for focus, clarity, and persuasiveness. The student is expected to frame his/her plan for the target audience (e.g., city council, school board, transit authority).
- 3. Feedback to a fellow student. Each student will respond to another student's plan, offering a constructive critique focused on: quality of the technical content (will it positively and equitably impact physical activity in the population?); effectiveness of the presentation in engaging others; and the likelihood of implementation.
- 4. Final submission: Based on classmates' feedback to their presentation, students will provide a final edited version of their paper for instructors' consideration. A second version of the presentation is not required.

Grading Range:

Final letter grades (A+ through F) for the course will be assigned based on the following criteria (we round up at 0.05 or 0.5):

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90–100 A range (90–<93 = A-, 93+ = A, A+ given for superlative work)
80–89 B range (80–<83 = B-, 83–<87 = B, 87–<90 = B+)
70–79 C range (70–<73 = C-, 73–<77 = C, 77–<80 = C+)
60–69 D range (60–<63 = D-, 63–<67 = D, 67–<70 = D+)
<60 F
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A passing grade in the course is B- or better.

Instructions for Submission of Assignments and Exams:

Written assignments should be submitted in Word or PDF, 1-inch margins, 11-point font, double-spaced. If you would like our comments directly in your assignment, Word may be your preferred format. All assignments, discussion postings, etc., must be submitted by Sunday the week they are assigned to be due, no later than 11:59PM EDT or your local time, whichever is later, unless otherwise specified (e.g., term assignment has an end-of-semester due date). Please let us know if you are taking the course in a time zone other than the eastern coast of the U.S. Late assignments will be accepted; however, 10% will be deducted for every day late. If you would like to request an extension on an assignment, you MUST email or call BEFORE the posted due date/time to request the extension. We will be reasonably flexible in identifying an alternate due date.

Academic Conduct:

You are responsible for upholding the highest standards of academic integrity, as specified in the Friedman School's Policies and Procedures Handbook located at this web page: https://nutrition.tufts.edu/about/policies-and-procedures, as well as Tufts University's policies (https://students.tufts.edu/community-standards/support-resources/academic-integrity-resources). This includes understanding and avoiding plagiarism, which is defined as the unacknowledged use of someone else's published or unpublished work. It is the responsibility of each student to understand and comply with academic integrity standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Accommodation of Disabilities:

We will do our best to ensure each of you has the resources you need to succeed. Tufts University is committed to providing equal access and support to all students through the provision of reasonable accommodations so that each student may access their curricula and achieve their personal and academic potential. If you have a disability that requires reasonable accommodations, please contact the Friedman School Assistant Dean of Student Affairs at 617-636-6719 to make arrangements for determination of appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeliness a critical aspect for their provision.

Tufts Zoom:

The course is delivered online and designed to be accomplished fully asynchronously, such that students can view any of the provided lectures, videos, and other materials at their convenience. Two lectures will be provided live on the Monday of their respective weeks (#s 4 & 9) and one on Wednesday (#7). They are recorded and immediately available for viewing. There are also two scheduled "office hours" on Wednesdays of weeks #5 and #10. All live lectures and discussions are delivered over Zoom. Access links are provided in the corresponding weekly module in Canvas, as well as in that week's announcement (issued each Monday at 7am ET).

We offer these "live" opportunities based on feedback from previous years' students, many of whom indicated they appreciated an opportunity to participate in live presentations. Further, it allows the faculty to provide extremely contemporaneous information on current issues, particularly around rapidly evolving challenges and practices focused on equitable transportation and land use policies and implementation. To be clear, attendance at any live session is not required nor does it have any bearing whatsoever on grading or standing in the class. These sessions are provided to allow students who feel they benefit from live interaction with faculty to have that opportunity, and to allow faculty (and students) to inject very current examples into course material.

Course Overview:

You will find the course's Canvas site is organized by weekly modules, with all readings and discussion prompts posted the week they are assigned, as well as clear instructions for each assignment submission. This schedule is subject to modification at the instructor's discretion.

DATE OF CLASS	COURSE TOPIC	LECTURERS	ASSIGNMENTS DUE
Week 1 (May 24)	Introduction to the course & "netiquette"	Boulos & Fenton	Assignment 1: Watch introduction videos. Finish by 5/28. Assignment 2: Complete the "Getting to Know You" activity. Finish by 5/28. Assignment 3: Complete the PA one-week recall diary. Finish by 6/4, Submit to Canvas 6/11. (CO #3) DISCUSSION: What are the facilitators to you being physically active in your personal life? What could be barriers for others that don't have those same facilitators?
Week 2 (May 29)	Framing Determinants of Health: Socio-Ecological Model	Boulos & Fenton	Assignment 4: Wear a pedometer for one week and write a reflection about similarities/differences compared with the one- week recall from week 1. Finish by 6/11, Submit to Canvas 6/11. (CO #3) Discussion: Use Robert Wood Johnson Foundation's life expectancy "calculator" (link) on your home location, and one to two other locations that you know to be demographically different (e.g. by race, age, income, ethnicity). Are the life expectancies the same or different? If different, briefly offer one or two reasons why that might be the case. Link: https://www.rwjf.org/en/library/interactives/wher eyouliveaffectshowlongyoulive.html
Week 3 (June 5)	Physical Activity 101	Boulos	Assignment 5: Write a one-page evaluation of a real-world development policy or infrastructure project that might inequitably influence physical

Week 4 (June 12) LIVE Lecture: Monday, 6/12, 8:00pm – 9:00pm EDT (will be recorded) Week 5 (June 19) Available office hours live discussion: Wednesday, 6/21, 8:00pm – 9:00pm EDT (will be recorded)	Evidence, Systems & Disparities in Physical Activity Physical Activity Behavioral Interventions – the Stickiness Problem	Boulos & Fenton Boulos & Fenton	NO NEW ASSIGNMENT/NO ASSIGNMENT DUE. DISCUSSION: What evidence can you find explaining why racial and ethnic minorities tend to have lower rates of attainment of physical activity recommendations? How would levels of physical activity impact racial differences in chronic disease risk and life expectancy? Assignment 6: Definitions & Acronyms — Post acronym definitions & applicability to PA to Canvas using the Glossary, found under Discussions. Submit in Glossary 6/25. (CO #3) ASSIGNMENT DUE: One-page evaluation of a real-world development policy or infrastructure project DISCUSSION: Do you have experience in a behavioral, educational, and/or encouragement
			program to promote physical activity, and if so; do you believe it was effective? Are you aware of any research or evidence on behavioral, educational, and/or promotional programs that have created successful sustained increases in physical activity? For example, do you know of anything like this that has worked on a scale greater than just volunteers
Week 6 (June 26)	Built Environment	Fenton	in a research study? Assignment 7: Obtain Walkscores for three

Week 7 (July 3) LIVE Lecture: Wednesday, 7/5, 8:00pm – 9:00pm EDT (will be recorded)	Land Use Mix, Density, and Institutional Racism in Land Use Planning	Boulos & Fenton	ASSIGNMENT DUE: Post Walkscores and comments on Canvas. Finish by 7/9. DISCUSSION: Please share at least one piece of research or information you have found (not on the reading lists, etc.) that is an evidence-based or practice-based resource that you feel can inform and guide community designs and policies for increased physical activity. Important: What leads you to believe this is a credible or reliable source of
Week 8 (July 10)	Networks of Facilities for Active Transportation: Success and Unintended Consequences	Fenton	information or design or practice guidance? Assignment 9: Create a photo-voice (photos with captions) of a walk audit of an actual walking route that is or could be part of your life. <i>Submit to Canvas 7/23.</i> (CO #4)
			DISCUSSION: This week, we're going to ask you to respond to an article in the Emory Wheel and a student project at Furman University using GIS mapping to study gentrification along Atlanta's beltline trail.
			https://emorywheel.com/atlantas-beltline-a- gentrified-path/
			https://storymaps.arcgis.com/stories/e14cb44aad5 d4757b9bbdf937dbcc57a
			Discussion Question: Do you believe that projects such as the Beltline Trail in Atlanta should be stopped if they are causing gentrification and displacement? Or can you find evidence that there are viable alternatives that allow for development of walk-, bike-, and transit-friendly designs & policies while minimizing the inequitable consequences of displacement and gentrification?
Week 9 (July 17) LIVE Lecture: Monday, 7/17, 8:00pm – 9:00pm EDT (will be recorded)	Site Design, Safety, Traffic Calming, & Inclusive Community Engagement	Boulos & Fenton	Assignment 10: Develop a memo (~1,000 words) outlining how you will utilize what you have learned from this class in your work and/or advocacy. Record a 4-5-minute (6 min max) video presentation summarizing your plan. Submit DRAFT in Discussions 7/30. (CO #5) ASSIGNMENT DUE: Post photo-voice of your walk audit. Comment on at least one other and/or comment on overall themes you see from the postings. Submit to Canvas 7/23.
			DISCUSSION: If you were going to do what Ray Sharp did in the book chapter reading, how would you make your case to the officials in your community? Who would you talk to, and what would the conversation look like/how would you compel them to action? Would you threaten to run

			OPTIONAL DISCUSSION: Share what you are doing in your personal life or career to increase PA.
Week 13 (August 14)	Your Plans & Relevant Case Studies	Fenton	ASSIGNMENT DUE: Final two-page memo and accompanying video presentation. <i>DUE by 8/20</i> .
			OPTIONAL DISCUSSION: Do you have questions for your peers as you're developing your final proposal? Use the discussion forum to exchange challenges, questions, ideas, etc.
Week 12 (August 7)	Intervention Approaches	Boulos & Fenton	No New Assignments/No Assignments Due.
			DISCUSSION: Should some type of Health Impact Analysis be included during the new and redevelopment permitting processes? Should it be recommended or required? How can equity concerns be incorporated in such an analysis?
Week 11 (July 31)	National Initiatives, Movements, and Economic Impacts of Healthy Design	Fenton	Assignment 12: Utilizing classmate input, finalize your "implementation memo" and video presentation. ASSIGNMENT DUE: Have provided your comments (and received your partner's comments) on your memo.
			Keep in mind, we know the shortcomings of behavior change alone - think about the stickiness problem. Use the concepts of the socio-ecological model and systems science to inform your answer.
			DISCUSSION: Offer substantive ideas on how to change social norms regarding walking and bicycling to school, like they were in the 1950s and 1960s, so these become a normal behavior again.
тесогией			Assignment 11: Review your partner's draft memo and provide written comments (you will post this so that others can learn from your drafts and responses). ASSIGNMENT DUE: Exchange your first drafts, including references, of your "implementation memos" with your partner.
Week 10 (July 24) Available office hours live discussion: Wednesday, 7/26, 8:00pm – 9:00pm EDT (will be recorded)	Safe Routes to School	Fenton	No New Assignments. ASSIGNMENT DUE: Develop a memo (~1,000 words) outlining how you will utilize what you have learned from this class in your work and/or advocacy. Record a 4-5-minute (6 min max) video presentation summarizing your plan. Submit DRAFT in Discussions 7/30.
			for public office? Or commend them for doing great work? Which resources would you use?

Topics, Assignments, and Learning Objectives for Each Class Session:

Class Session: Session 1

Date of Class: Week of 5/24

Course Topic(s): Course Orientation

Learning Objectives:

1. Identify, explain, and use a weekly PA recall diary.

Required Reading/Assignments:

Readings.

Assignments.

- 1. Watch instructor introduction videos.
- 2. Complete one-week PA recall; estimate typical daily energy expenditure.
- 3. Complete the "Getting to Know You" activity by submitting a brief (one phrase each) summary of your name, position, why you're taking the course, where you reside, and your earliest fond recollection of being physically active as a young child. Post your replies to the Discussion Board.

Class Session: Session 2
Date of Class: Week of 5/28

Course Topic(s): Framing Determinants of Health: Socio-Ecological Model

Learning Objectives

- 1. Draw and describe the pyramid version of the Socio-Ecological Model and summarize different examples of its use in public health promotion.
- 2. Explain how the Socio-Ecological Model can be used to inform approaches to changing physical activity behavior.

Required Reading/Assignments:

Readings.

- 1. Frederick C, Hammersmith A, Gilderbloom JH. (2019). Putting 'place' in its place: Comparing place-based factors in interurban analyses of life expectancy in the United States. *Social Science & Medicine*, 232:148–155.
- 2. Hilland TA, Bourke M, Wiesner G, Bengoechea EG, Parker AG, Pascoe M, Craike M. (2020). Correlates of walking among disadvantaged groups: A systematic review. *Health Place*. May,63:102337.
- 3. Frieden T. (2010). A framework for public health action: The Health Impact Pyramid. *American Journal of Public Health*,100(4):590-595.
- 4. Goenka S, Andersen LA. (2016). Our health is a function of where we live. Lancet, 387(10034):2168-2170.
- 5. Sallis JF, Owen N & Fisher E. (1996). Ecological models of health behavior. (Chapter 20) pp. 465-482. In K. Glanz, F.M. Lewis, and B.K. Rimer (Eds.), *Health Behavior and Health Education: Theory, Research, and Practice*, 2nd edition. San Francisco: Jossey-Bass.
- 6. Lee Y, Park S. (2021). Understanding of physical activity in social ecological perspective: Application of multilevel model. *Frontiers in Psychology*, 5(12):622929.

Assignments.

Wear a pedometer for one week, recording daily step totals. Estimate daily energy expenditure. Compare data from this to weekly recall from first week and analyze/discuss similarities/differences. Were they different, if so why, and which do you think was more accurate for you? Also comment on physical activity in your life.

Class Session: Session 3

Date of Class: Week of 6/5

Course Topic(s): Physical Activity 101

Learning Objectives:

- 1. Define various forms of physical activity recreation, exercise, functional, transportation.
- 2. Differentiate between different methods for estimating/measuring PA questionnaires, accelerometers, observation.
- 3. Explain national epidemiologic surveillance programs and changes in routine energy expenditure over human history.

- 4. Describe national PA recommendations for health, weight loss and fitness.
- 5. Use a pedometer and compare results with those from weekly PA recall diary.

Required Reading/Assignments:

Readings.

Required

- 1. Ekelund U, Tarp J, Steene-Johannessen, et al. (2019). Dose-response associations between accelerometry measured physical activity and sedentary time and all-cause mortality: Systematic review and harmonised meta-analysis, *British Medical J.*, 366:l4570.
- 2. Dyrstad SM, Hansen BH, Holme IM, Anderssen SA. (2014). Comparison of self-reported versus accelerometer-measured physical activity. *Med Sci Sports Exerc.*; 46(1):99-106.
- 3. Church TS, Thomas DM, Tudor-Locke C, Katzmarzyk PT, Earnest CP, et al. (2011). Trends over 5 decades in U.S. occupation-related physical activity and their associations with obesity. *PLoS ONE* 6(5), e19657.
- 4. Morris JN, Kagan A, Pattison DC, Gardner MJ, et al. (1966). Incidence and prediction of Ischemic Heart Disease in London busmen. *The Lancet:* 553-559.
- 5. *Review:* Ainsworth BE, Haskell WL, Whitt MC, Irwin ML, Swartz, AM, et al. (2000). Compendium of physical activities: An update of activity codes and MET intensities. *Official Journal of the American College of Sports Medicine*, 32(9 Suppl), S498-504.
- 6. Review executive summary: 2018 Physical Activity Guidelines for Americans
- 7. Review summary: World Health Organization 2020 Guidelines on Physical Activity & Sedentary Behavior

Recommended

- 1. American College of Sports Medicine. Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: Guidance for prescribing exercise.
- 2. Dietary Guidelines for Americans, 2020-2025
- 3. Physical activity and health: A report of the Surgeon General
- 4. Bassuk SS and Manson JE. (2005). Epidemiological evidence for the role of physical activity in reducing risk of type 2 diabetes and cardiovascular disease. *Journal of Applied Physiology*, 99:1193-1204.

Assignments.

Write a one-page evaluation of a real-world development policy or infrastructure project that might inequitably influence physical activity in the surrounding population. For example: Read this article about a possible age 55+ housing development in Augusta ME that would change availability of recreational space for other neighborhood residents.

Class Session: Session 4
Date of Class: Week of 6/12

Course Topic(s): Evidence, Systems & Disparities in Physical Activity

Learning Objectives:

- 1. Describe "systems science" and how it can be used to understand and intervene to improve health disparities.
- 2. Describe how social, legal, and political systems can influence disparities in physical activity both positively and negatively.

Required Reading/Assignments:

Readings.

Required

- 1. Hawkins MS, Storti KL, Richardson CR, King WC, Strath SC, Holleman RG, Kriska AM. (2009). Objectively measured physical activity of USA adults by sex, age, and racial/ethnic groups: A cross-sectional study, *Int. J. Behavioral Nutrition & Physical Activity*,6:31.
- 2. Fulton JE. (2020). "Physical inactivity is more common in racial and ethnic minorities in most states." https://blogs.cdc.gov/healthequity/2020/04/01/physical-inactivity/
- 3. Carroll DD et al. (2017). Vital signs: Disability and physical activity United States, 2009–2012, *Morb Mortal Wkly Rep.*; 63(18):407–413.
- 4. Troiano R et al. (2008). Physical activity in the United States, measured by accelerometer, MSSE 40(1):181-188.
- 5. Christakis NA & Fowler JH. (2007). The spread of obesity in a large social network over 32 Years. *N Engl J Med*;357:370-379.

- 6. *Review:* Luke DA & Stamatakis KA. (2012). Systems science methods in public health: Dynamics, networks, and agents. *Annual Review of Public Health*;33:357–376.
- 7. Book Ch. 27: Isaac F. Bringing physical activity, fitness & movement to the workplace.
- 8. *Skim:* UK Government's Foresight Programme. 2007. <u>Tackling obesities: Future choices project report</u>. 2nd edition

Assignments.

ASSIGNMENT DUE: Reflection of PA recall questionnaire vs. pedometer measure.

Class Session: Session 5
Date of Class: Week of 6/19

Course Topic(s): Physical Activity Behavioral Interventions – the Stickiness Problem

Learning Objectives:

- 1. Describe typical behavior-focused physical activity interventions, and their relative strengths and weaknesses.
- 2. Explain how a socio-ecological approach moves beyond pure behavior change.
- 3. Identify the multiple disciplines that must be engaged for a broader socio-ecological approach to physical activity promotion.
- 4. Begin identifying specific socio-ecological issues that underlie inequitable outcomes.

Required Reading/Assignments:

Readings.

Required

- 1. Craike M, Wesner G, Hilland TA, Bengoechea EG. (2018). Interventions to improve physical activity among socioeconomically disadvantaged groups: An umbrella review, *Int J Behav Nutr Phys Act*; 15(1):43.
- 2. Jakicic JM, Marcus BH, Gallagher KL, Napolotiano M & Lang W. (2003). Effect of exercise duration and intensity on weight loss in overweight, sedentary women. *JAMA*, 290(10):1323-1330.
- 3. Jakicic JM, et al. (2016). Effect of wearable technology combined with a lifestyle intervention on long-term weight loss: The IDEA randomized clinical trial. *JAMA*, 316(11):1161-1171.
- 4. Book Ch 9 Reger-Nash B. Wheeling walks: A targeted mass media-led physical activity campaign.

Recommended

- 1. *Skim:* Book Ch 10: Bauman A. Mass media campaigns to promote physical activity: Australia & New Zealand case studies.
- 2. Davison K, Jurkowski J, Li K, Kranz S, Lawson H. (2013). A childhood obesity intervention developed by families for families: Results from a pilot study. *International Journal of Behavioral Nutrition and Physical Activity*, 10(3).
- 3. Dishman R, et al. (2010). Using constructs of the Transtheoretical Model to predict classes of change in regular physical activity: A multi-ethnic longitudinal cohort study. *Annals of Behavioral Medicine* 40(2):150-163.
- 4. Dunn A, et al. (1999). Comparison of lifestyle and structured interventions to increase physical activity and cardiorespiratory fitness. *JAMA*, 281(4).
- 5. Thomas J, et al. (2014). Weight-loss maintenance for 10 years in the national weight control registry. *Am J Prev Med*;46(1):17-23.

Assignments.

Definitions and acronyms: Each student will be assigned 3-4 acronyms to define (what the letters mean, what it actually is); and its importance to our work. Post to Canvas by next class for an active class glossary.

ASSIGNMENT DUE: One-page evaluation of a real-world development policy or infrastructure project that might inequitably influence physical activity in the surrounding population.

Class Session: Session 6
Date of Class: Week of 6/26

Course Topic(s): Built Environment Influences on Physical Activity

Learning Objectives:

- 1. Summarize the current evidence connecting physical activity and the environment.
- 2. Describe four key environmental elements that support routine walking, cycling, and transit use.
- 3. Explain, interpret, and apply a Walkscore rating, including strengths and shortcomings.

4. Discuss health equity issues related to transit availability, segregation, housing, and gentrification.

Required Reading/Assignments:

Readings.

Required

- 1. Sallis JE, et al. (2016). Physical activity in relation to urban environments in 14 cities worldwide: A cross-sectional study, *Lancet*, 387:2207-2217.
- 2. Fenton M. (2012). Community design and policies for free-range children: Creating environments that support routine physical activity. *Childhood Obesity*; 8(1).
- 3. Frank L, Kavage S. (2009). A national plan for physical activity: The enabling role of the built environment. *Journal of Physical Activity and Health*;6(Suppl 2):S185-S195.
- 4. Harris J, et al. (2013). Mapping the development of research on physical activity and the built environment. *Preventive Medicine*;57:533-540.
- 5. McCormack G, Shiell A. (2011). In search of causality: A systematic review of the relationship between the built environment and physical activity among adults. *International Journal of Behavioral Nutrition and Physical Activity*;8(125).
- 6. Familiarize yourself with the Physical Activity Research Center (PARC)

Recommended

- 1. *Skim:* Giles-Corti B, et al. (2016). Urban design, transport, and health 1 City planning and population health: a global challenge. *Lancet*; 388(10062):2912-2924.
- 2. *Skim:* Stevenson M, et al. (2016). Urban design, transport, and health 2 Land use, transport, and population health: Estimating the health benefits of compact cities. *Lancet*; 388(10062):2925–2935.
- 3. *Skim:* Sallis JE et al. (2016) Urban design, transport, and health 3 Use of science to guide city planning policy and practice: How to achieve healthy and sustainable future cities. *Lancet*; 388(10062):2936–2947.
- 4. Saelens B, Sallis J, Frank L. (2003). Environmental correlates of walking and cycling: Findings from transportation, urban design, and planning literatures. *Annals of Behavioral Medicine*; 25(2):80-91.

Assignments.

Obtain Walkscores (www.walkscore.com) of three real locations you know (ideally one is your home, second is another place you frequent such as work, third is an area you find noteworthy because of high or low walkability). Compare scores and why you think they are different. Also identify shortcomings of Walkscore. Write a one-page discussion answering these questions: what felt more "walkable" to you, and why? Did Walkscore capture all the factors of walkability? What did it do well, what poorly?

ASSIGNMENT DUE: Post your two acronym glossary entries. *Skim:* Your classmates' Glossary submissions.

Class Session: Session 7
Date of Class: Week of 7/3

Course Topic(s): Land Use Mix, Density, and Institutional Racism in Land Use Planning

Learning Objectives:

- 1. Identify and distinguish between the various types of planning documents and policies and their importance (e.g., master/comprehensive plans, Long-Range Transportation Plans, Transportation Improvement Plans, Pedestrian/Bicycle Plans, Open space/trail plans).
- 2. Develop ordinance recommendations that will address segregated vs. mixed uses; Euclidian vs. Form-based code; open space & farmland preservation.
- 3. Identify ordinance influences on population dietary behavior, such as community gardens and related activities (urban composting, bees, chickens, goats, pigs), drive-thru/fast-food zoning.
- 4. Explain relevant movements in the land use field, such as Traditional Neighborhood Design (TND); Transit Oriented Development (TOD); New Urbanism, Smart Growth.

Required Reading/Assignments:

Readings.

Required

- 1. Rowland-Shea J, et al. (2020). <u>The nature gap: Confronting racial and economic disparities in the destruction and protection of nature in America</u>, *The Center for American Progress*.
- 2. Rothstein R. blog post The Color of Law: A Forgotten History of How Our Government Segregated America.

- 3. Young DR, et al. (2020). Creating built environments that expand active transportation and active living across the United States: Policy statement of the American Heart Association. *Circulation*;142(11):e167–e183.
- 4. Book Ch. 40 Kappagoda M, et al. Using legal & policy muscles to support physically active communities.
- 5. Ewing R, et al. (2003). Relationship between urban sprawl and physical activity, obesity, and morbidity. *American Journal of Health Promotion*;18(1):47-57.
- 6. Ding D, et al. (2011). Neighborhood environment and physical activity among youth: A review. *American Journal of Preventive Medicine*;41(4):442-455.
- 7. Frank L, et al. (2004). Obesity relationships with community design, physical activity, and time spent in cars. *American Journal of Preventive Medicine*; 27(2):87–96.

Assignments.

No new assignments.

ASSIGNMENT DUE: Post your Walkscores and comments on three locations.

Class Session: Session 8
Date of Class: Week of 7/10

Course Topic(s): Networks of Facilities for Active Transportation: Success and Unintended Consequences

Learning Objectives:

- 1. Classify key transportation network elements for routine active transportation (walking, cycling, and transit use).
- 2. Categorize key guidelines and manuals used in network construction, such as the AASHTO guide to design; Manual on Uniform Traffic Control Devices (MUTCD), NACTO Urban Street Design Guide.
- 3. Define Complete Streets, both the movement, and actual design approaches such as traffic calming and road diets.
- 4. Distinguish attributes of trails and multi-use pathways for transportation vs. recreation.
- 5. Design and implement an I2Audit (Inclusive Interdisciplinary Walk/Movement Audit) for community engagement, education, and practical planning.

Required Reading/Assignments:

Readings.

Required

- 1. America Walks: How the MUTCD creates unsafe conditions for people just trying to access food. (2021).
- 2. Book Ch. 37 Selby J. A road diet for increased physical activity: Safer walking, bicycling, and transituse
- 3. Book Ch. 39 Peterson K. Leveraging public and private relationships to make Omaha bicycle friendly
- 4. Flint E, Webb E, Cummins S. (2017). Change in commute mode and body-mass index: Prospective, longitudinal evidence from UK Biobank, *Lancet Public Health*. Jan;2(1):e14.
- 5. Review: Complete Streets Summary document (what is it), model policy statement
- 6. Review: NACTO urban street design guidelines Executive summary
- 7. Review: National Physical Activity Plan
- 8. Review: Rails-to-Trails Conservancy website
- 9. Review: American Trails website

Recommended

1. Camrud N. (2017). "Race, Class, and Gentrification Along the Atlanta BeltLine," Scripps Senior Theses. 947.

Assignments.

Create a photo-voice of a walk audit of an actual walking route that is or could be part of your life. Post photos with one-sentence captions: two photos of appealing/supportive elements; two photos of discouraging/unsupportive, and one photo of an interesting, intriguing, surprising or curious element. (Outline: opening two sentence description of the route and why it's important, five photos with captions, and two concluding sentences on possible low-cost remediation or improvements).

Class Session: Session 9
Date of Class: Week of 7/17

Course Topic(s): Site Design, Safety, Traffic Calming & Inclusive Community Engagement

Learning Objectives:

- 1. Characterize "carrots and sticks" in transportation demand management, such as congestion charges (London, others), HOV lanes; pricing of parking; and bike share systems using performance and impact data.
- 2. Distinguish differing roles of key stakeholders, such as architects, landscape architects, planners, engineers, and elected and appointed boards.
- 3. Understand how pop-up and demonstration projects can improve inclusive community engagement while allowing communities try new or innovative design approaches.
- 4. Describe key protections and requirements of the Americans with Disabilities Act and its benefits.

Required Reading/Assignments:

R<u>eadings.</u>

Required

- 1. Brown CT. (2020). 12 strategies for centering and prioritizing equity in transportation, *ITE Journal*; Washington, 90(2): 42-45.
- 2. Hamann C, et al. (2020). Racial disparities in pedestrian-related injury hospitalizations in the United States, *BMC Public Health*; 20:1459.
- 3. Review Executive Summary: McCullough SR, Stokkum RV (2021). Answers from the Margins: Participatory planning with disadvantaged communities.
- 4. Toole Design (2021). Ensuring an equitable approach to rebalancing streets 14 strategies to manage change with ethics, equity, and empathy; Resource Guide (3).
- 5. Book Ch. 36 Sharp R. Local public health leadership for active community design: An approach for year-round PA in Houghton, MI.
- 6. Book Ch. 38 Meehan L. Incorporating physical activity and health outcomes in regional transportation planning.
- 7. Review: Walk and Bike Suitability Assessment (WABSA)
- 8. Review: Pedestrian & Bicycle Information Center Audit Tools
- 9. *Review:* United States Department of Justice Civil Rights Division. Information & Technical Assistance on the Americans with Disabilities Act.

Assignments.

Continue to work on photo-voice.

Class Session: Session 10
Date of Class: Week of 7/24

Course Topic(s): Safe Routes to School

Learning Objectives:

- 1. Summarize major research and policy efforts targeting school-related physical activity and nutrition.
- 2. Explain how these research and policy efforts fit within the SEM, specifically utilizing the 5E framework (evaluation, education, encouragement, engineering, enforcement).
- 3. Discuss how efforts can/cannot effectively increase physical activity, improve nutritional quality and/or result in target benefit.
- 4. Explain possible challenges and solutions associated with shared-use agreements.

Required Reading/Assignments:

Readings.

Required

- 1. Book Ch. 35 Thomas I. Institutionalizing Safe Routes to School in Columbia, MO.
- 2. Omura JD, et al. (2019). Prevalence of children walking to school and related barriers—United States, *Preventive Medicine*;118:191–195
- 3. Rodriguez NM, et al. (2019). Enhancing safe routes to school programs through community-engaged citizen science: two pilot investigations in lower density areas of Santa Clara County, California, USA; *BMC Public Health*;19:256
- 4. McDonald MC, Brown AL, Marchetti LM, Pedroso MS. (2011). U.S. School Travel, 2009: An Assessment of Trends, *Am J Prev Med*;41(2):146 –151
- 5. Davison K, Werder J, Lawson C. (2008). Children's active commuting to school: Current knowledge and future directions. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*;5(3).
- 6. Review: National Center for Safe Routes to School website

- 7. Review: National Safe Routes Partnership website
- 8. Review: EPA School Siting Recommendations
- 9. How Oakland Got Real About Equitable Urban Planning

Recommended

- 1. Book Ch. 3 Yancey T. Role of recess and physical activity breaks during the school day.
- 2. Ham S, et al. (2008). Changes in the percentage of students who walk or bike to school: United States, 1969 and 2001. *J Phys Act Health*;5(2):205-15.

Assignments.

Write a two-page (~1,000 words) "implementation memo" and

- 1. Identify a physical activity-related problem in your community that you would like to address.
- 2. Identify key stakeholders who will be affected by changes related to this public health problem.
- 3. Apply concepts and lessons learned in class to identify specific policy or procedural steps, or specific actions that will be taken, and the anticipated outcomes, keeping stakeholders' interests in mind.

The memo should be formally written and structured and include citations and references to class readings or equivalent resources discovered during the course. Also develop a brief video presentation summarizing your plan for the class (4-5 minutes; no longer than 6 minutes).

ASSIGNMENT DUE: Post your "photo-voice" of your walk audit. Comment on at least one other and/or comment on overall themes you see from the postings.

Class Session: Session 11
Date of Class: Week of 7/31

Course Topic(s): National Initiatives, Movements, and Economic Impacts of Healthy Design

Learning Objectives:

- 1. Identify the focus and strengths of key campaigns supporting healthy community design, such as Complete Streets; Transportation Trails (Rails-to-Trails Conservancy); Crime Prevention through Environmental Design (CPTED), New Urbanism, and Transportation Demand Management.
- 2. Utilize the assessment tools of the Walk Friendly Community & BikeFriendly Community Awards to assess community success.
- 3. Identify and present the economic benefits of healthy community design principles.
- 4. Utilize the Health Economic Analysis Tool (HEAT) for walking & cycling to ascertain the dollar value of bicycle and pedestrian improvements and understand the adjustable defaults on the tool.

Required Reading/Assignments:

Readings.

Required

- 1. Schuetz J. (2020). <u>To improve housing affordability, we need better alignment of zoning, taxes, and subsidies</u>. *Brookings Institution*.
- 2. Read summary: Liu J (2020). <u>Understanding Economic and Business Impacts of Street Improvements for Bicycle</u> and Pedestrian Mobility A Multi-City Multi-Approach Exploration. *Nat. Inst. for Transportation & Communities*.
- 3. Review: EPA Smartgrowth summary documents on:
 - a. Economic benefits to Developers
 - b. Economic benefits to Businesses
- 4. Review: NYC Dept. of Transportation: The Economic Benefits of Sustainable Streets
- 5. Review: League of American Bicyclists website
- 6. Review: Pedestrian and Bicycle Information Center website

Recommended

1. National Physical Activity Plan. The 2014 United States report card on physical activity for children and youth.

Assignments.

Review your partner's draft and provide written comments (you will post this so that others can learn from your drafts and responses).

ASSIGNMENT DUE: Exchange first drafts of "implementation memos," including references.

Class Session: Session 12
Date of Class: Week of 8/6

Course Topic(s): Intervention Approaches

Learning Objectives:

- 1. Describe community-based participatory research.
- 2. Design a community engagement process from initial contact through a site visit with field audits and facilitated planning sessions.
- 3. Utilize a simple assessment of community readiness, examining:
 - Public health understanding of true PSE
 - o Allied disciplines engagement (planning, public works, housing transit)
 - o Policymaker embrace & implementation
- 4. Explain and give real examples of the 3-P framework for community planning and public design charrettes (programs, projects, and policies).

Required Reading/Assignments:

Readings.

Required

- 1. Sliwa S, et al. (2011). Using the Community Readiness Model to select communities for a community-wide obesity prevention intervention. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*;8(6): 1-9.
- 2. Cradock AL, et al. (2021). Priorities and indicators for economic evaluation of built environment interventions to promote physical activity. *Journal of Physical Activity and Health*;18(9):1088-1096.
- 3. Fenton Three P summary memo (program, project, & policy)
- 4. Fenton How to Pay for Sidewalks
- 5. Review: Washington University in St. Louis Audit Checklist
- 6. Review: Microscale Audit of Pedestrian Streetscape (MAPS) tools
- 7. Review: U.S. Virgin Islands MAPS tool report

Assignments.

Utilizing classmate input, finalize your concluding "implementation memo" and video presentation.

ASSIGNMENT DUE: Have provided your comments (and received your partners' comments) on your implementation memo by this time.

Class Session: Session 13
Date of Class: Week of 8/14

Course Topic(s): Your Plans and Relevant Case Studies

Learning Objectives:

- 1. Critique their own and others' implementation ideas to utilize healthy design approaches.
- 2. Synthesize key implementation lessons from varied case studies, and succinctly summarize these key takeaways (e.g., Shape Up Somerville, Nashville MPO).
- 3. Utilize a Health Impact Assessment (HIA) to make the case for healthy design, such as Boston's Metropolitan Area Planning Council HIA of proposed MBTA service and fare changes.

Required Reading/Assignments:

Assignments.

ASSIGNMENT DUE: Final two-page "implementation memo," and brief video presentation explaining your plan. This must be based on evidence and best practices presented or discovered by you in this class, with the goal of increasing population level physical activity (possibly in a specific target location or group).

This schedule is subject to modification at the instructors' discretion.