PADP 7200: Sustainability and Smart Cities
Spring 2025
Department of Public Administration & Policy
School of Public and international Affairs
University of Georgia

Instructor: Heewon Lee
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Class schedule: Thursday 7:00-9:50 PM
Class location: Baldwin Hall 301
Office hours: Thursday 5-6pm or by appointment (in-person/virtual).

Course description

This course explores the institutions and physical infrastructure necessary for the successful governance and management of Sustainable and Smart Cities. The course focuses on three main aspects: 1) the meaning of sustainable and smart cities in research and practice, 2) the strategies, structure, managerial tools, and implementation processes for sustainable and smart cities, and 3) the ethical dimensions of equity, privacy, security, and quality of life. The course analyzes how these three aspects are part of the overall managerial challenge of developing sustainable and smart cities within technological, natural, societal, economic, and political systems.

Course Objectives

1. Academic-This course aims to build understanding of the key concepts of smart and sustainable communities and how those topics are studied within the field of public administration and policy. The course will cover multiple theoretical frameworks that are useful to understand the planning, implementation, and governance of smart and sustainable communities.
2. Practical- This course emphasizes real-world applications through case studies, project-based activities, and analysis of existing local government plans. Through collaborative projects and discussions, students will gain experience in evaluating policies and strategies, identifying practical challenges, and proposing improvements.

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- Demonstrate an understanding of key concepts, technologies, theories, and best practices relevant to sustainable and smart cities in research and practice.
- Evaluate and analyze existing plans for smart and sustainable communities, identifying strengths, weaknesses, and areas for improvement based on best practices and theoretical principles.
- Propose and outline actionable plans for smart and sustainable communities, incorporating insights from existing strategies and local government examples.
- Identify and discuss governance strategies for fostering collaboration with stakeholders and engaging citizens in transitions to sustainable and smart cities.

Course Materials

Required readings and articles will be posted on ELC.

Recommended Text:

- Students will need to cite all sources for their essays in APA format. Purdue University Online Writing Lab (OWL) offers a great overview on how to do this. Style manuals are located under Research and Citation. I also recommend the use of Mendeley, Endnote, or some other reference management software.
    - [Purdue OWL APA guide](#)
- Matson, P., Clark, W. C., & Andersson, K. (2016). Pursuing sustainability: A guide to the science and practice. Princeton University Press.
- Smart cities library
    - https://www.smartcitieslibrary.com/the-case-for-citizen-engagement-in-a-smart-city/
- Springer public administration and information technology e-book series

Assignments and Final Grade

Participation and attendance	10%
Online discussion board assignments * 4	20%
Class Presentation and Discussion Facilitation	10%
Sustainable and Smart Cities policy project	
-milestone #1: policy proposal	5%
-milestone #2: policy backgrounds and general review	20%
-milestone #3: presentation	15%

-milestone #4: Final paper	20%
Total:	**100%**

1. **Participation and attendance (10%)**

- You are expected to complete all required readings prior to class, actively engage in discussions with critical thinking, creative suggestions, and substantive questions, and link assigned materials to relevant debates in current events.
- Participation grade measures both a) making **at least one meaningful verbal contribution to whole-class discussions** and b) actively and meaningfully engaging in **group activities**.
- You are allowed up to two unexcused absences without any penalty. However, starting with the third unexcused absence, a 1% deduction will be applied to your final grade for each additional unexcused absence.
- Your final participation grade will be calculated by multiplying your attendance grade by your overall participation.

2. **Online discussions (20%)**

- There will be **four** discussion post assignments. Submit discussion posts online no later than **6 pm on the day of the in-class meeting**.
- Discussion prompts are relevant to the readings for the day's in-class meeting (e.g., Discussion 1 will be based on Week 2 materials).
- We will share your responses in class and continue the discussion.
- Discussion posts should demonstrate that you have read the assigned materials and are integrating them with other class content.
- Discussion posts should be written in a respectful and inclusive manner.

3. **Class Presentation and Discussion Facilitation (10%)**

- Throughout the semester, each student will **present once** on **a peer-reviewed research article** from the optional readings. Also, you will **facilitate a class discussion** for the class: **prepare 4-5** discussion questions about the article and how it relates to the week's topic.
- Purpose: be able to read research articles critically and present them in a professional manner.
- Students will choose the week they will be presenting. (have a couple weeks of topics in mind)
- Presentations should be 15-20 minutes, followed by 15-20 minutes of class discussion.
- You are required to use slides. Additional materials to guide your presentation is optional.
- In your presentation, make sure to explain why the paper is important—focusing on its contribution to explanation and theory development, not just its practical applications. Be critical: discuss both the strengths and weaknesses of the paper. Do not read directly from your slides or notes.

4. Sustainable and Smart Cities policy project (60%)

Students will work on a project proposing a sustainable or smart city initiative to address an urban issue in a city of their choice.

Milestone#	Due	Assignment	Format	Grade
Milestone 1	Feb 7	Select one policy domain	Email	5%
Milestone 2	Feb 27	Policy backgrounds and overview	3 pages	20%
Milestone 3	Apr 24	Presentation	15-minute presentation	15%
Milestone 4	May 1	Final Paper	6-7 pages	20%

(1) Milestone 1: Select one policy domain
Each student will select a sustainable or smart policy issue in a city to conduct research on and notify me via email. Students can choose from the suggested policy domains listed below or explore other topics they are interested in.
- Waste management: Smart waste management and recycling
- Transportation: Intelligent transportation systems, AFVs and refueling stations, Shared and mass transportation
- Energy generation: Energy management, smart grid, alternative energy generation
- Environment: Environmental quality monitoring, environmental data management
- Buildings: Smart buildings and community infrastructure
- Public safety and security: Smart technologies in public safety, emergency responses

For further inspiration, you can also refer to: https://www.shareable.net/wp-content/uploads/2019/04/Sharing_Cities.pdf

(2) Milestone 2: Policy backgrounds and overview
Each student is expected to submit a **3-page, double-spaced summary** analyzing the city's current state of sustainability/smart city transition within their chosen policy domain.
In this paper, I'll be looking for:
a. Introduction: A broad overview of the chosen policy domain in the city.
b. Policy backgrounds: Research and review of relevant city-level initiatives and plans to implement smart practices in the policy domain: are there any current or past efforts?
c. Problem identification: Identify a specific area for improvement that you believe needs to be addressed.

(3) Milestone 3: Presentation
Each student is expected to deliver a **12-minute presentation** on their project. Each presentation will be followed by a 3-minute QnA session. For this presentation, you are required to a) build upon your milestone

2 assignment, b) select a specific policy issue or case in the city (policy, program, etc.) within your chosen policy domain, c) identify an area for improvement.

In the presentation, I'll be looking for:

    a. Introduction: Briefly introduce your chosen policy domain, and provide a summary of the city's current state in that domain based on your Milestone 2 paper.

    b. Case introduction: Introduce and critically analyze the case you are interested in.

    c. Problem identification: Identify an area for improvement that you believe needs to be addressed.

(4) Milestone 4: Final Paper

In the final week, each student is expected to submit a **final paper, 6-7 pages long** (not including title page and references, double spaced, 12pt Times new roman, 1-inch margin). This final paper should include: a) executive summary, b) backgrounds, c) recommendations, d) governance and stakeholder engagement plan to implement a practice that you recommended in Milestone 4.

The final paper should be prepared in a format and style appropriate for delivery to the agency or jurisdiction administrator.

In the paper, I'll be looking for:

    a. A title page identifying the writer

    b. Executive Summary (1/2 page)

    c. Backgrounds and Overview (1 page): summary of Milestone 2

    d. Recommendations (2-3 pages): summary of your recommended (proposed) policy or practice, policy objectives

        i) Review one case of smart and sustainable city policies, projects, or practices implemented in other governments that addressed similar concerns. Utilize studies and reports on the implementation and impacts of these policies.

        ii) Justification of recommendations: Describe and explain how the proposed practice would work to address the problem.

        iii) Identify relevant course of action.

    e. Governance and stakeholder engagement plan (2-3 pages)

        i) Stakeholder Analysis: Identify the key stakeholders—governmental (departments, neighboring governments, county, state, MPO, RPC) and nongovernmental (private sector, utilities, nonprofits)—who will be affected by or have an influence on the policy implementation. Assess their interests, needs, concerns, and potential roles in the implementation process.

        ii) Stakeholder Engagement Methods: Outline the methods and approaches to engage stakeholders, such as informative, consultative, collaborative, or participatory methods. Select the most suitable approach based on the project goals and stakeholder characteristics.

        iii) Citizen Engagement Strategy: Define a communication strategy to effectively engage and inform stakeholders throughout the policy implementation process. Identify the communication

channels, key messages, target audiences, and activities to promote awareness and understanding of the policy.

   f. Reference list: All articles and books used in the paper should be fully referenced on a separate reference page. As proper citation is a key part of any research assignment, it is imperative that you utilize proper citing and quoting techniques in this paper. In this class, you can use any formal citation format of APA style (American Psychological Association).

Final grades

Final grades are assigned at the end of the semester based on each student's performance on the course requirements using the following scale.

A	94-100	C+	77-79.99
A-	90-93.99	C	74-76.99
B+	87-89.99	C-	70-73.99
B	83-86.99	D	60-69.99
B-	80-82.99	F	60 or below

Course format

This course will follow a discussion/seminar format, which means that it is imperative that you come to class prepared to discuss the week's readings/viewings. Sharing your opinions, concerns, ideas, and thoughts i.e., class participation is a requirement for this course.

We will be using ELC and (when needed) Zoom to manage our course this semester. It is your responsibility to access readings/viewings on time and be prepared for class discussion.

Course Calendar

*Readings should be completed by the first day of each module.

Week	Module	Readings*	Assignments
1 Jan 9	**Introduction to Sustainable and Smart Cities**	Syllabus Optional readings · Fiorino, D. J. (2010). Sustainability as a conceptual focus for public administration. Public administration review, 70, s78-s88.	
2 Jan 16	**Sustainable Infrastructure and Governments I**	· Portney (2009). Sustainability in American cities: A comprehensive look at what cities are doing and why. Toward sustainable communities: transition and transformations in environmental policy, 227-254.	Welcome survey (Due Jan 16)

		· Sustainable infrastructure · Power generation	· Case 1: EA shining cities report · Case 2: Energy burden in GA	
3 Jan 23	**Sustainable Infrastructure and Governments II** · Sustainable infrastructure · Transportation		· Lee, Heewon, and Yixin Liu. 2024. "All Hands on Deck: The Role of Collaborative Platforms and Lead Organizations in Achieving Environmental Goals." Journal of Public Administration Research and Theory, March, muae006. · Case: Clean Transportation cases <u>Optional readings</u> Asensio, O. I., Alvarez, K., Dror, A., Wenzel, E., Hollauer, C., & Ha, S. (2020). Real-time data from mobile platforms to evaluate sustainable transportation infrastructure. Nature Sustainability, 3(6), 463-471. (Miles)	
4 Jan 30	**Smart City Technologies** · Artificial intelligence · Internet of Things		· AI: Deloitte report · Young, M. M., Bullock, J. B., & Lecy, J. D. (2019). Artificial discretion as a tool of governance: a framework for understanding the impact of artificial intelligence on public administration. Perspectives on Public Management and Governance, 2(4), 301-313. · Case: Shotspotter <u>Optional readings</u> · Tang, T., & Ho, A. T. K. (2019). A path-dependence perspective on the adoption of Internet of Things: Evidence from early adopters of smart and connected sensors in the United States. Government Information Quarterly, 36(2), 321-332.	Discussion 1 (Due Jan 30)
5 Feb 6	**Planning for Sustainable and Smart Cities I** · Strategic planning overview · Needs assessment		· Boswell, M. R., Greve, A. I., & Seale, T. L. (2010). An assessment of the link between greenhouse gas emissions inventories and climate action plans. Journal of the American planning association, 76(4), 451-462. · ASEAN Smart City Planning Guidebook (p.1~33) · Case: Columbus SSC Application <u>Optional readings</u> · Spicer, Z., Goodman, N., & Wolfe, D. A. (2023). How 'smart' are smart cities? Resident attitudes towards smart city design. Cities, 141, 104442.	Milestone 1 (Due Feb 7)

6 **Feb 13**	**Planning for Sustainable and Smart Cities II** · Strategic plan development	· Ji, H., & Darnall, N. (2018). All are not created equal: Assessing local governments' strategic approaches towards sustainability. Public Management Review, 20(1), 154–175. · Guidelines for SSC city action plan · ASEAN Smart City Planning Guidebook (p.34~) · <u>Optional readings</u> · Woodruff, S. C., Meerow, S., Stults, M., & Wilkins, C. (2022). Adaptation to resilience planning: Alternative pathways to prepare for climate change. Journal of Planning Education and Research, 42(1), 64-75.	Discussion 2 (Due Feb 13)
7 **Feb 20**	**Implementing projects for Sustainable and Smart Cities** · Project prioritization · Financing for infrastructure projects	· Tian Tang and Hunter Hill. 2018. "Implementation and Impacts of Intergovernmental Grant Programs on Energy Efficiency in the USA." Current Sustainable/Renewable Energy Reports 5 (1): 59–66. doi:10.1007/s40518-018-0097-5. · Case: EPA project prioritization <u>Optional readings</u> · Collins, B. K., & Gerber, B. J. (2008). Taken for Granted? Managing for Social Equity in Grant Programs. Public Administration Review, 68(6), 1128–1141. https://doi.org/10.1111/j.1540-6210.2008.00960.x	
8 **Feb 27**	**Midterm**		Milestone 2 (due Feb 27)
9 **Mar 6**	**Spring Break**		
10 **Mar 13**	**Governance for Sustainable and Smart Cities I** · Governance and collaboration overview · Different types of governance and coordination issues in sustainable and smart cities	· Emerson, K., Nabatchi, T., & Balogh, S. (2012). An Integrative Framework for Collaborative Governance. Journal of Public Administration Research and Theory, 22(1), 1–29. https://doi.org/10.1093/jopart/mur011 · Clement, J., Manjon, M., & Crutzen, N. (2022). Factors for collaboration amongst smart city stakeholders: A local government perspective. Government Information Quarterly, 39(4), 101746. · Case: SSC Applications: partnerships <u>Optional readings</u> · Koontz, T. M., & Newig, J. (2014). From Planning to Implementation: Top-Down and Bottom-Up Approaches	

		for Collaborative Watershed Management. Policy Studies Journal, 42(3), 416–442. https://doi.org/10.1111/psj.12067	
11 **Mar 20**	**Governance for Sustainable and Smart Cities II** · Citizen engagement and coproduction	· Clark, Benjamin Y., Jeffrey L. Brudney, and Sung-Gheel Jang. 2013. "Coproduction of Government Services and the New Information Technology: Investigating the Distributional Biases." Public Administration Review 73 (5): 687–701. · Case: Columbus SSC Application document, citizen engagement section Optional readings · Allen, B., Tamindael, L. E., Bickerton, S. H., & Cho, W. (2020). Does citizen coproduction lead to better urban services in smart cities projects? An empirical study on e-participation in a mobile big data platform. Government Information Quarterly, 37(1), 101412. https://doi.org/10.1016/j.giq.2019.101412 · Linders, Dennis. 2012. "From E-Government to We-Government: Defining a Typology for Citizen Coproduction in the Age of Social Media." Government Information Quarterly 29 (4): 446–54.	
12 **Mar 27**	**Project work day (no in-class meeting due to instructor's conference travel)**		
13 **Apr 3**	**TBD**		
14 **Apr 10**	**Performance Evaluation and Monitoring of Sustainable and Smart Cities** ·	· Liu, Y., Lee, H., & Berry, F. (2023). How and When Democratic Values Matter: Challenging the Effectiveness-Centric Framework in Program Evaluation. Public Performance & Management Review, 46(4), 820–845. · OECD Smart cities measurement · Case: SSC Application documents, performance section Optional readings · Deslatte, A. (2020). Positivity and Negativity Dominance in Citizen Assessments of Intergovernmental Sustainability Performance. Journal of Public Administration Research and Theory, muaa004.	Discussion 3 (Due Apr 10)

15 Apr 17	**Equity** · Environmental justice · Digital divide	· Orebaugh, A. (2022). Environmental Justice and Smart Cities. In Environmental Justice and Resiliency in an Age of Uncertainty (pp. 87-95). Routledge. · Case: Smart city plans · UN e-government survey chapter 4 Optional readings · Konisky, D. M., Reenock, C., & Conley, S. (2021). Environmental injustice in Clean Water Act enforcement: Racial and income disparities in inspection time. Environmental Research Letters, 16(8), 084020.	Discussion 4 (Due Apr 17)
16 Apr 24	**Presentation**		Milestone 3
17 May 1	**Exam week**		Milestone 4 (Due May 1)

Course Statements and Policies

Communication with Instructor

When sending an email, you can expect a response within 48 hours. Note that I may not respond on the weekend or holidays.

Use of Technology

Laptops and other electronic devices are welcome in class for note-taking and reviewing class materials. I ask you to silence your mobile devices so that you do not disrupt other students' learning.

Prohibition on Recording Lectures

In the absence of written authorization from the UGA Disability Resource Center, students may not make a visual or audio recording of any aspect of this course. Students who have a recording accommodation agree in writing that they:

- Will use the records only for personal academic use during the specific course.
- Understand that faculty members have copyright interest in their class lectures and that they agree not to infringe on this right in any way.
- Understand that the faculty member and students in the class have privacy rights and agree not to violate those rights by using recordings for any reason other than their own personal study.
- Will not release, digitally upload, broadcast, transcribe, or otherwise share all or any part of the recordings. They also agree that they will not profit financially and will not allow others to benefit personally or financially from lecture recordings or other course materials.

- Will erase/delete all recordings at the end of the semester.
- Understand that violation of these terms may subject them to discipline under the Student Code of Conduct or subject them to liability under copyright laws.

Syllabus Policy

I reserve the right to update this syllabus as class needs arise. Be assured that I will communicate to you any changes to our schedule, syllabus, or policies quickly and efficiently through email.

Late work

Late assignments will be accepted up to 14 days after the deadline with a 10% penalty. If you make a late submission, it is your responsibility to inform me. Late submissions of group assignments will not be accepted. Late final papers will not be accepted, and no work will be accepted after the final exam week. Students are encouraged to consult with the instructor if they encounter unexpected or anticipated issues that may delay the submission of assignments, to arrange an alternate submission deadline.

Academic Honesty

Students are required to follow the UGA Student Honor Code: "I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others." A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found at www.uga.edu/ovpi.

Honesty and transparency are important features of good scholarship. On the flip side, plagiarism and cheating are serious academic offenses with serious consequences. If you are discovered engaging in either behavior in this course, I will follow the procedures laid out in UGA's Academic Honesty Policy. There you can also find more information about what counts as prohibited conduct.

Use of AI for Coursework

At UGA, the default rule for student use of AI on their coursework is that it is not permitted.

Accommodation for disabilities

If you plan to request accommodations for a disability, please register with the Disability Resource Center. They can be reached by visiting Clark Howell Hall, calling 706-542-8719 (voice) or 706-542-8778 (TTY), or by visiting http://drc.uga.edu.

Preferred Names/Pronouns

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I am eager to address

you by your preferred name and/or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

Students with Disabilities

If you have a disability and would like to request specific accommodations, please notify the Office for Disability Services (https://drc.uga.edu) and your instructor as soon as possible. Documentation of a disability and our email exchanges are confidential.

UGA Well-being Resources

UGA Well-being Resources promote student success by cultivating a culture that supports a more active, healthy, and engaged student community.

Anyone needing assistance is encouraged to contact Student Care & Outreach (SCO) in the Division of Student Affairs at 706-542-8479 or visit sco.uga.edu. Student Care & Outreach helps students navigate difficult circumstances by connecting them with the most appropriate resources or services. They also administer the Embark@UGA program which supports students experiencing, or who have experienced, homelessness, foster care, or housing insecurity.

UGA provides both clinical and non-clinical options to support student well-being and mental health, any time, any place. Whether on campus, or studying from home or abroad, UGA Well-being Resources are here to help.

- Well-being Resources: well-being.uga.edu
- Student Care and Outreach: sco.uga.edu
- University Health Center: healthcenter.uga.edu
- Counseling and Psychiatric Services: caps.uga.edu or CAPS 24/7 crisis support at 706-542-2273
- Health Promotion/ Fontaine Center: healthpromotion.uga.edu
- Disability Resource Center and Testing Services: drc.uga.edu

Additional information, including free digital well-being resources, can be accessed through the UGA app or by visiting https://well-being.uga.edu.

University's Religious Holidays Attendance Policy

Student absences due to religious holidays are addressed by the University's Religious Holidays Attendance Policy.

In accordance with that policy, approval of such absences will be granted only if the instructor receives written notice from the student at least one week in advance of the religious holiday. We will discuss to determine the conditions under which work will be made up when a student misses class or other academic obligations because of a religious holiday.

COVID-19 Protocols

Starting in 2022, UGA began to manage COVID-19 the same way as other infectious diseases. UGA continues to follow Georgia Department of Public Health (GDPH) guidance on COVID-19. Self-isolation is the expectation for faculty, staff, and students who test positive for COVID-19, i.e.,

- Isolate for 7 days.
- If you have no symptoms and a negative test at the 7-day mark, you can leave isolation.
- Continue to wear a mask around others for 7 additional days.

If you have been in close contact with someone who is COVID-positive, but you are not sick, GDPH and CDC urge you "…to monitor your health for symptoms of COVID-19 during the 10 days following the last time you were in close contact with a sick person with COVID-19."