

**GEOG 383.20 “Climate Change and Cities”/GEOG 711.30 “Urban Dimensions: Global Climate Change” offered on W 5:30PM-8:15PM HN-1022**

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Office Hours: Wednesday 4:30-5:30 or by appointment

Course Description

Global urbanization and climate change are two of the most important trends and developments facing the world today. This new three credit class will examine how these two processes interact and by doing so create some of the significant challenges and opportunities for creating a sustainable world. Recent international reports highlight the fact that climate change already is having significant negative impacts and that to forestall even more adverse impacts significant reduction of greenhouse gas emissions and a transition to zero carbon economy needs to take place. The reports highlight to several other key findings. First, that the window of opportunity to limit this higher level of impact is rapidly closing. Second, the need for significant climate adaptation to diminish the effects of climate change is now evident. And third, and perhaps most intriguing, cities will play a central role in how the climate crisis is solved. Cities are vital for successful climate adaptation and climate mitigation. We live in an urban world (~56% of the world's now 8.0 billion live in cities) and almost all of the population growth that will take place in the next several decades is predicted to be in and around cities. Cities represent great concentrations of wealth, innovation as well as poverty and vulnerability. Cities now account for up 75% of the world's climate heating emissions.

To untangle these issues and define the best scenarios for accelerating climate action in cities, the class will examine, among other topics, a) how urbanization drives environmental change, b) the vulnerability of urban populations and the critical infrastructure on which they are dependent, c) the transformative capacity of urban society, d) new climate solutions including risk management strategies and zero carbon urbanism, and e) the prospect and promise of advancing just urban transitions that can simultaneously promote environmental sustainability and equity for all. Throughout the class, we will be looking at social/policy, ecological/environmental, and technological/infrastructure implications of all these ongoing rapid changes.

Expected Student Learning Outcomes

The course is designed to facilitate the following set of learning outcomes for students:

1. Understand the systems level connection between urbanization and climate change;
2. Define the social production of urban climate vulnerability
3. Define the significance of equity and justices considerations in urban climate action
4. Evaluate urban climate science from science technological studies perspective
5. Analyze the conditions of urban climate resilience and adaptation

6. Analyze the conditions of urban climate mitigation
7. Develop a conceptual and operational model for climate resilient development pathways
8. Capacity to define, evaluate and operationalize urban climate solutions.

### Grading

Your grade will be based on following set of assignments and responsibilities.

	<u>Points</u>	
Assignment 1	10	- Urban greenhouse gas (GHG) inventory analysis
Assignment 2	10	- Urban climate resilient development scenario development
Mid Term Exam	25	- Nov. 13, In class
Research paper	30	- On topic of your choice and with presentation
Participation	25	- involvement in class discussion; students groups will lead a discussion; submission of 1-to-2-page comment papers
	<b>100</b>	<b>TOTAL POINTS</b>

The two assignments will be given out during the course of the semester. Each assignment will focus on a different topic and have associated supplemental readings. The midterm exam will review the course work material to date and will be held during class time. No final exam will be given – although we might use the final exam period for student presentations. Students will develop an independent research paper on a topic of their choice. The paper develop process will include the submission of a single page introductory outline sheet, an annotated bibliography, a rough draft, and a final draft. Students also will be expected to publicly present their research before the class. Class attendance and class participation are a critical part of the semester grade. Students (in teams of two or three) will be able to lead discussions on particular topics. This means that you must be prepared to discuss the readings assigned for the day. Other specifics as to the nature of the assignments, term paper and the participation grade will be discussed in class. Late assignments will receive a reduction in grade. No grades of "incomplete" will be given except in cases of extreme circumstances.

### Required Reading

No require single text is available for this course. *Readings are available via email from the instructor or via the Hunter College blackboard.* The readings are to be read for the week they are listed. Additional readings might be assigned on a weekly basis. The reading will include approximately 40-50 pages per week on average.

### Optional Texts

I will be taking material from many references including major reports, recent books and other lengthy publications. I include a list of key references below.

1. Bloomberg, M., and Pope, C. 2017. Climate of Hope: How Cities, Businesses, and Citizens Can Save the Planet. St. Martin's Press.

2. Bulkeley, H. 2012. Cities and Climate Change (Routledge Critical Introductions to Urbanism and the City) Part of: Routledge Critical Introductions to Urbanism and the City. Routledge.
3. Kaika, M., Keil, R., Mandler, T., Tzanninis. 2023. Turning up the Heat: Urban Political Ecology for a Climate Emergency. Manchester University Press.
4. Leichenko, Robin M. & O'Brien, Karen (2024). Climate and Society: Transforming the Future. Polity Press. 2<sup>nd</sup> Edition.
5. Oke, TR, Mill, G, Christen, A, Voogt, JA. 2017. Urban Climates. Cambridge University Press. ISBN: 978-1-107-42953-6
6. Rosenzweig, C., Solecki W., Romeo-Lankao, P., Mehrotra, S., Dhakal S., and Ali-Ibrahim S. Eds. (2018). Second Assessment of Research on Climate Change in Cities. Cambridge University Press.
7. Seto, K., Solecki W., and Griffith C. Eds. (2015; 2020). Handbook in Urbanization and Global Environmental Change. Routledge Press.
8. United Nations Human Settlements Programme (UN-Habitat). 2022. World Cities Report 2022. United Nations Human Settlements Programme, 2022

### **Hunter College Policy on Academic Integrity**

Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

### **ADA Policy**

In compliance with the ADA and with Section 504 of the Rehabilitation Act, Hunter College is committed to ensuring educational access and accommodations for all its registered students. Hunter College's students with disabilities and medical conditions are encouraged to register with the Office of AccessABILITY for assistance and accommodation. For information and appointment contact the Office of AccessABILITY located in Room E1214 or call (212) 772-4857 /or VRS (646) 755-3129.

### **Hunter College Policy on Sexual Misconduct**

In compliance with the CUNY Policy on Sexual Misconduct, Hunter College affirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationship. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, on contacting the College's Public Safety Office (212-772-4444)
- b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the

College's Title IX Campus Coordinator, Dean John Rose ([jtrose@hunter.cuny.edu](mailto:jtrose@hunter.cuny.edu) or 212-650-3262) or Colleen Barry ([colleen.barry@hunter.cuny.edu](mailto:colleen.barry@hunter.cuny.edu) or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct

Link: <http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>

### **Department Personal Identity Policy**

All people have the right to be addressed and referred to in accordance with their personal identity. In this class, we will have the chance to indicate the name that we prefer to be called and, if we choose, to identify pronouns with which we would like to be addressed...I will do my best to address and refer to all students accordingly and support classmates in doing so as well.

### **Syllabus Change Policy**

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. If changes are made to the syllabus, I will notify you via email through Blackboard. It is essential that you have your correct email linked to your Blackboard account and that you check your Hunter or other Blackboard-linked email regularly. Bounced emails will not be an acceptable excuse for not being aware of changes or any other communications to the class.

## SEMESTER SCHEDULE

Meeting Date	Topic
August 28	Class introduction – transformative cities
September 4	Climate change – review of the physical science and urban micro-climates
September 11	Global urbanization – trends and prospects
September 18	Urban political ecology, right to the city, and equity and justice
September 25	Vulnerability and impacts of climate change
October 2	NO CLASS
October 9	Urban adaptation, resilience, and maladaptation
October 16	Urban energy systems and climate mitigation
October 23	Urban society transitions and transformation
October 30	Case examples of urban environmental transitions
November 6	Urban climate resilient development and new urban climate solutions
November 13	Nature-based solutions [MID TERM EXAM]
November 20	Urban planning architecture and design
November 27	NO CLASS – Follows a Friday schedule
December 4	Urban energy transitions
December 11	Community-based climate action
December 18	Student presentations – No Final Exam